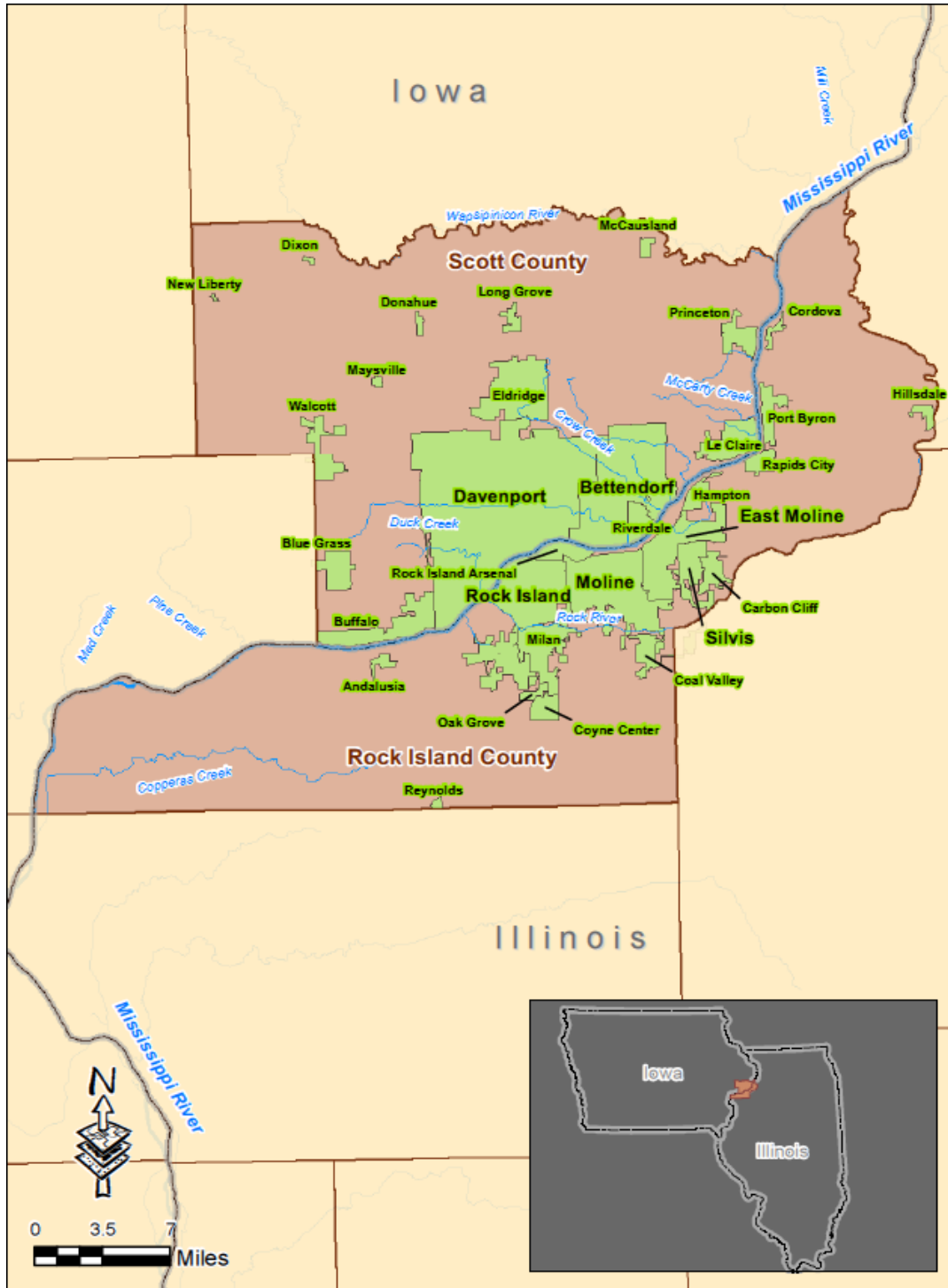


# Quad Cities Subarea Contingency Plan

## U.S. Environmental Protection Agency



September 2024  
Public Distribution

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## TO REPORT A SPILL OR RELEASE

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**National Response Center**  
**Emergency Response 24-Hour Emergency Number**  
**(800) 424-8802**

National Response Center  
United States Coast Guard Headquarters  
Washington, DC



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**EPA Region 5 Regional Response Center**  
**Emergency Response 24-Hour Emergency Number**  
**(312) 353-2318**

United States Environmental Protection Agency  
Emergency Response Branch  
77 West Jackson Blvd.  
Chicago, IL 60604



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**EPA Region 7 Regional Response Center**  
**Emergency Response 24-Hour Emergency Number**  
**(913) 281-0991**

United States Environmental Protection Agency  
Emergency Response Branch  
11201 Renner Blvd.  
Lenexa, Kansas 66219

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**United States Coast Guard**  
**District Commander, Eighth District**  
**24-Hour Emergency Number**  
**(855) GULF-SAR (485-3727)**



Hale Boggs Federal Building, Room 1328  
500 Poydras Street  
New Orleans, Louisiana 70130

**Sector Upper Mississippi River, Sector Commander**  
**24-Hour Emergency Number**  
**(314) 269-2332**

1222 Spruce Street, Suite 7.103  
Saint Louis, MO 63103



**Illinois Emergency Management Agency**  
**(800) 782-7860 (in-state) or**  
**(217) 782-7860 (24-Hour)**

Illinois State Duty Officer  
2200 S. Dirksen Parkway  
Springfield, Illinois 62703



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**Iowa Department of Natural Resources**  
**Emergency Response 24-Hour Emergency Number**  
**(515) 725-8694**

6200 Park Avenue  
Des Moines, IA 50321

## Special Notice

The Quad Cities Subarea (QCSA) Contingency Plan (QCSACP) is intended for broad dissemination. Because it is a publicly accessible document, some information has been omitted due to security concerns. Questions and special access regarding this plan should be addressed to the U.S. Environmental Protection Agency's (EPA) Co-Coordinator of the Quad Cities Subarea:

Kevin Turner  
On-Scene Coordinator  
EPA – Region 5  
[turner.kevin@epa.gov](mailto:turner.kevin@epa.gov)  
77 W. Jackson Blvd  
Chicago, IL 60604  
(618) 997-0115

Joe Davis  
On-Scene Coordinator  
EPA – Region 7  
[davis.joe@epa.gov](mailto:davis.joe@epa.gov)  
8600 NE Underground Drive, Pillar 253  
Kansas City, MO 64141  
(913) 551-7909

To request specific revisions to the QCSACP, see the Corrections and Updates Form on the following page.

## Dedication

*This plan is dedicated to the memory of Ron Kozel of the Iowa Department of Natural Resources, who died December 7, 1998. Completion of the Quad Cities Subarea Contingency Plan would not have been possible without Ron's unflinching belief in and attention to the planning process. Ron began as co-chairman of the subarea committee, but increasingly took on more responsibilities as other commitments absorbed the available time of other committee members. Ron was dedicated to planning and saw local and subarea plans as a mechanism for positive change that, when incorporated into state, regional, and national response plans, could render the latter plans more functional and user friendly. Ron broke new ground in his efforts to clarify the incident command system and the transition of command that would evolve during an incident. As Ron's colleagues in the planning process, we can aspire to live up to his standards as the Quad Cities Subarea Plan is used and revised in the future, ideally with all the detail and determination that he would have applied.*

## Corrections and Updates Form

Convey corrections, updates, or suggested additions to the QCSACP to Kevin Turner, EPA Region 5 On-Scene Coordinator (OSC), [turner.kevin@epa.gov](mailto:turner.kevin@epa.gov) or Joe Davis, EPA Region 7 OSC, [davis.joe@epa.gov](mailto:davis.joe@epa.gov).

Please complete the following information to effect a change in the subarea plan:

Page # of the plan: \_\_\_\_\_

Section and subsection numbers of the paragraph to be changed: \_\_\_\_\_

Other description (e.g., third sentence, in second full paragraph on page): \_\_\_\_\_

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Corrections or suggested changes: \_\_\_\_\_

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**Address:**

Kevin Turner  
On-Scene Coordinator  
EPA – Region 5  
[turner.kevin@epa.gov](mailto:turner.kevin@epa.gov)  
77 W. Jackson Blvd  
Chicago, IL 60604  
(618) 997-0115

Joe Davis  
On-Scene Coordinator  
EPA – Region 7  
[davis.joe@epa.gov](mailto:davis.joe@epa.gov)  
8600 NE Underground Drive, Pillar 253  
Kansas City, MO 64141  
(913) 551-7909

## Record of Change

The most current public access version of this document, including any changed pages, is available through EPA websites at [Region 7 Quad Cities Subarea Planning](#) and [Region 5 Subareas](#).

Change Number	Change Description	Section Number	Change Date
1	Added new subarea map	Cover	December 2015
2	Added agency logos and updated IA DNR spill line number	page i	December 2015
3	Combined "Dedication" and "Special Notice" sections; and revised and moved "Preamble" section	pages ii and v	December 2015
4	Moved "Corrections and Updates Form" from last page to front of plan	page iii	December 2015
5	Added "Record of Change" page	page iv	December 2015
6	Added hyperlinks to key terms on first use throughout document	Base Plan and preceding sections	December 2015
7	Hyperlinked "Table of Contents" to corresponding headings	Table of Contents	December 2015
8	Reformatted (e.g., changed font and styles) entire document	Entire document	December 2015
9	Removed references to US DOT's Research and Special Programs Administration, and DOI's Minerals Management Service	Base Plan, Section II	December 2015
10	Removed references to NRP and replaced with NRF except in Section II where relationship between NRP/NRF is explained	Entire document	December 2015
11	Revised "Description of the Subarea", to include 2014 census projections and local data; revised river miles marking subarea boundaries; and revised annual precipitation totals	Base Plan, Section III	December 2015
12	Removed old subarea map	Base Plan, Section III	December 2015
13	Added several Illinois agencies and their respective roles and responsibilities during a response	Base Plan, Section IV	December 2015
14	Added references and hyperlinks to Upper Mississippi River (UMR) Spill Response Plan and Resource Manual	Base Plan, Section IV	December 2015
15	Revised to reference most recent USCG/EPA MOU	Base Plan, Section IV	December 2015
16	Revised description of hazmat teams and MABAS	Base Plan, Section IV	December 2015
17	Added Illinois agencies and agency descriptions; and added Iowa DOT as support agency	Base Plan, Section IV	December 2015
18	Revised descriptions of EPA and USCG roles during a response to include information from their respective regional contingency plans (RCP and RICP)	Base Plan, Section IV	December 2015

Change Number	Change Description	Section Number	Change Date
19	Added Section V to include state and federal organizations/functions comprising “Technical Support Available to the FOSC” (i.e., SHPOs, SSCs)	Base Plan, Section V	December 2015
20	Revised “Natural Resource Trustees” sub-section to include references to OSWER and CERCLA directives	Base Plan, Section V	December 2015
21	Added language describing role and responsibilities of the RP (i.e., maintain a Qualified Individual, provide representative to UC, etc.)	Base Plan, Section VI	December 2015
22	Removed the term “Quick Action Response Guide” and replaced with “Spill Notification Flowchart”; moved flowchart to Appendix C; and reformatted flowchart and updated phone numbers	Appendix C	December 2015
23	Amended “Incident Command” section to include NIMS protocols and descriptions of incident command structures for various incident situations	Base Plan, Section IX	December 2015
24	Removed radio systems/channels formally used by local agencies in the “Communications” section and added a table of public safety answering points (PSAP) and 911 Call Centers	Base Plan, Section X	December 2015
25	Updated acronyms list	Appendix A	December 2015
26	Revised definition list to include description of non-conventional oils and removed terms not used in the document	Appendix B	December 2015
27	Separated Appendix D into several appendices/tables organized by role (e.g., natural resource trustees, local response agencies, federal and state support, etc.) and updated all contact information	Appendix F through K	December 2015
28	Updated “Mississippi River Reference Table” and verified accuracy with newly added Appendix P (water intakes)	Appendix L	December 2015
29	Updated “Environmentally Sensitive Areas” lists	Appendix M	December 2015
30	Updated “Threatened & Endangered Species” lists	Appendix N	December 2015
31	Added “Regulated Facilities” to include Facility Response Plan (FRP), Risk Management Plan (RMP), and Marine Transportation-Related (MTR) facilities	Appendix O	December 2015
32	Added list of potable and non-potable “Surface Water Intakes” and map of intake locations	Appendix P	December 2015
33	Removed MOU for response support among EPA Regions 1 through 10, and removed MOU for emergency support between Regions 5 and 7	Former Appendix N and Appendix O	December 2015
34	Removed “list of URLs used in the document”	Former Appendix P	December 2015

Change Number	Change Description	Section Number	Change Date
35	Removed Section X (Communications) and added 911 Call Center information to Appendix H	Appendix H	December 2015
36	Moved natural resource damage assessment (NRDA) forward in the section	Section V	January 2016
37	Added new subsection "Interstate Notification Protocol for Spills to the UMR"	Section VII	April 2016
38	Added appendix of safety data sheets describing various types of crude oil; and added a note in Appendix B under crude oil definitions	Appendix B and Appendix R	April 2016
39	Updated hyperlinks throughout plan	Base Plan and Appendices	July 2018
40	Moved "Spill Notification Flowchart" to Appendix A	Appendix A	July 2018
41	Updated "Federal Agency" contacts	Appendix D	July 2018
42	Updated "Natural Resource Trustee" contacts	Appendix E	July 2018
43	Updated "Additional Federal and State" contacts	Appendix F	July 2018
44	Updated "Local Public Safety Agency" contacts	Appendix G	July 2018
45	Updated "PSAPs and 911 Call Center" contacts	Appendix H	July 2018
46	Updated "Response Team and Spill Support" contacts	Appendix I	July 2018
47	Updated "Hospital" contacts	Appendix J	July 2018
48	Updated "Air Support/Airport" contacts	Appendix K	July 2018
49	Updated "Public Information Source" contacts	Appendix L	July 2018
50	Updated "Environmentally Sensitive Area" contacts	Appendix N	July 2018
51	Updated "Threatened and Endangered Species" list	Appendix O	July 2018
52	Updated "Regulated Facilities" list	Appendix P	July 2018
53	Updated USCG contact information and IDNR Headquarters office address	Page i	August 2024
54	Added Kevin Turner as EPA Region 5 QCSA Coordinator	Pages iii	August 2024
55	Updated hyperlinks throughout plan	Base Plan and Appendices	August 2024
56	Updated "Subarea Climate" description	Page III-1	August 2024
57	Updated "Primary Contacts – UMR Spill Notification" and "Additional Contacts – UMR Spill Notification"	Pages VII-4 to VII-7	August 2024
58	Removed description of "Oversight Command" to be consistent with other Region 7 subarea plans	Page IX-4	August 2024
59	Reorganized subsection describing "State Access to the OSLTF" to be consistent with other Region 7 subarea plans	Page XI-1	August 2024
60	Updated "Federal Agency Contacts"	Appendix D	
61	Updated "Natural Resource Trustee Contacts",	Appendix E	August 2024
62	Updated "Additional Federal and State Contacts", "State Historic Preservation Offices" contacts, and "State Transportation and Law Enforcement Agencies" contacts	Appendix F	August 2024
63	Updated "Local Public Safety Agencies" contacts	Appendix G	August 2024



Change Number	Change Description	Section Number	Change Date
64	Updated QCSA “Public Safety Answering Points (PSAP) & 911 Call Centers”	Appendix H	August 2024
65	Updated “Specialized Teams & Other Spill Response Support” contacts	Appendix I	August 2024
66	Updated “Hospital” locations and contacts	Appendix J	August 2024
67	Updated “Air Support and Airports”	Appendix K	August 2024
68	Updated “Public Information Sources”	Appendix L	August 2024
69	Replaced tables of river features (e.g., boat ramps, facilities, etc.) with link to Region 7 Mississippi River Viewer, application description, and instructions to obtain access	Appendix M	August 2024
70	Replaced lists of endangered & threatened species with hyperlinks for state distribution lists and “species by county”; added link for the USFWS “Information for Planning and Consultation” (IPaC) tool; and added link to “River Runner” spill trajectory tracing tool	Appendix O	August 2024
71	Update lists of Facility Response Plan (FRP) sites, Marine Transportation Related (MTR) sites, and Risk Management Plan (RMP) sites	Appendix P	August 2024
72	Removed surface water intake data and map per Region 7 EPA	Appendix Q	August 2024
73	Replaced crude oil safety data sheets (SDS) with more current examples	Appendix Q	August 2024

## Preamble

The Quad Cities Subarea Contingency Plan (QCSACP), first published in 1998, resulted from a collaborative effort of federal and state agencies, emergency managers, and local emergency responders within the geographic area surrounding the Mississippi River and its tributaries from river mile marker 512 to 448.

The QCSACP is not intended to replace or supplement any local, state, regional, or national-level plan. Rather, it should be reviewed in conjunction with the relevant regional, state, and local plans. Additionally, the QCSACP is intended as a companion document to the Region 5 Regional Contingency Plan (RCP)/Area Contingency Plan (ACP), Region 7 Regional Integrated Contingency Plan (RICP), Quad Cities Response Strategies, and the Upper Mississippi River Spill Response Plan & Resource Manual. These tools and information sources are designed for first responders facing the unique physical conditions along the Mississippi River within Scott County, Iowa, and Rock Island County, Illinois. The Quad Cities Response Strategies and other companion documents are available at [Region 5 Subareas](#) and [Region 7 Quad Cities Subarea Planning](#).

This plan will be updated annually, but more frequent revisions could occur if developments warrant. Corrections or suggestions may be submitted via the Corrections and Updates Form on page iii above.

**QUAD CITIES SUBAREA CONTINGENCY PLAN**

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## I. INTRODUCTION

### A. Purpose and Objective

The purpose of the Quad Cities Subarea (QCSA) Contingency Plan (QCSACP) is to facilitate a timely, effective, and cooperative response by representatives of private, local, state, and federal agencies to a discharge of oil or release of hazardous substances within the QCSA. The objective of QCSACP is to coordinate an expedited response to a substantial discharge or threat of a discharge through integrated actions of the unique combination of private industry and local, state, and federal entities with jurisdiction in the QCSA.

### B. Subarea Statutory Authority

The QCSA is intended as a supplement to the U.S. Environmental Protection Agency (EPA) [Region 7 Regional Integrated Contingency Plan \(RICP\)](#) and the EPA [Region 5 Regional Contingency Plan \(RCP\)/Area Contingency Plan \(ACP\)](#). The QCSACP was prepared in accordance with Section 311(j) of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (OPA or OPA 90), 33 *United States Code* (U.S.C.) 1251 et seq., the National Oil and Hazardous Substances Pollution Contingency Plan ([NCP](#)), 40 *Code of Federal Regulations* (CFR) part 300, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601, as amended.

### C. Scope

The QCSACP—in conjunction with the [National Response Framework](#) (NRF), the Region 5 RCP/ACP and Region 7 RICP, and state and local plans—will apply to discharges of oil and/or releases of hazardous substances as defined in Section 300.3 of the NCP.

### D. Updating

The QCSACP will be updated annually unless more frequent updates become necessary because of changes in relevant regional or national plans, or insights gained during responses. Response equipment, notifications lists, environmentally or economically sensitive area listings, and other relevant data may be updated or incorporated into the QCSACP as these become available.

## II. RELATIONSHIP TO OTHER CONTINGENCY PLANS

### A. Private-sector Response Plans

Federal and state regulations require facility operators to maintain plans designed to prevent or mitigate releases or discharges to the environment. A particular facility may be subject to one or more of the following federal regulations (for a complete list of acronyms and abbreviations, see Appendix B):

- EPA's Oil Pollution Prevention Regulation (Spill Prevention Control and Countermeasures and Facility Response Plan [FRP] Requirements) – 40 CFR parts 112.7(d) and 112.20-21
- EPA's Emergency Planning and Community Right-to-know Act (EPCRA) – Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III)
- U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration's Pipeline Response Plan Regulation – 49 CFR part 194
- U.S. Department of the Interior's (DOI) Facility Response Plan Regulation-30 CFR part 254
- United States Coast Guard's (USCG) Facility Response Plan Regulation – 33 CFR part 154, sub-part F
- EPA's Risk Management Programs Regulation – 40 CFR part 68
- Occupational and Health Administration's (OSHA) Emergency Action Plan Regulation – 29 CFR 1910.38(a)
- OSHA's Process Management Safety Standard – 29 CFR 1910.119
- OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) Regulation – 29 CFR 1910.120, and EPA's Resource Conservation and Recovery Act (RCRA) Contingency Planning Requirements – 40 CFR part 264, Sub-part D; 40 CFR part 265, sub-part D; and 40 CFR 279.52
- Clean Air Act (CAA) – 40 CFR Part 68.

The National Response Team's ([NRT](#)) Integrated Contingency Plan (ICP) Guidance was published in the *Federal Register* on June 5, 1996 (Vol. 61, No. 109, 28642-28664). The ICP provides a mechanism for consolidating multiple plans into one functional emergency response plan. It does not relieve facilities of their current emergency planning obligations, and adherence to the ICP guidance is not required to comply with federal regulatory requirements. Facilities are free to continue maintaining multiple plans in lieu of an ICP to demonstrate federal regulatory compliance. In Illinois, certain facilities are required to have contingency plans that meet the requirements of the Illinois Chemical Safety Act (430 ICSA 45/ et. seq.) As long as criteria in that law are met, the plan can be in ICP format. The following describes private-sector emergency response plans pertaining to the NCP, OPA 90, and CWA.

Section 300.211 of the NCP describes and cross references the regulations that implement section 311(j)(5) of the CWA. Owners of tank vessels, offshore facilities, and certain onshore facilities are required to prepare and submit FRPs for responding to an oil or hazardous substance worst-case discharge (WCD) or substantial threat of

discharge. Regulations and requirements governing FRPs are specified in 40 CFR § 112 and 33 CFR § 154. Prior to approval, facility and vessel response plans shall be reviewed for consistency with any relevant ACP or RCP.

As defined in OPA 90, each responsible party (RP) for a vessel or facility that discharges oil or poses a substantial threat of a discharge into or upon the navigable waters or adjoining shorelines or the Exclusive Economic Zone is liable for removal costs and damages as specified in Section 311(f) of CWA, 33 U.S.C. § 311(f). Any removal activity undertaken by the RP must be consistent with the provisions of the NCP, the RCP, and the applicable response plan required by OPA 90. In addition, if directed by a Federal On-Scene Coordinator (FOSC) at any time during removal activities, the RP must act accordingly.

Section 311(j) (5)(c) of CWA requires that FRPs shall:

- (i) Be consistent with the requirements of the NCP and ACP.
- (ii) Identify the qualified individual having full authority to implement removal actions, and require immediate communication between that individual and the appropriate federal official and the persons providing personnel and equipment pursuant to clause (iii).
- (iii) Identify, and ensure by contract or other means approved by the President, the availability of private personnel and equipment necessary to remove to the maximum extent practicable a WCD (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge.
- (iv) Describe training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure safety of the vessel or the facility, and to mitigate or prevent a discharge, or substantial threat of a discharge.
- (v) Undergo periodic updates.
- (vi) Be resubmitted for approval of each significant change.

## **B. Local Response Plans**

Sections 301 and 303 of EPCRA, which is [SARA Title III](#), provide for establishment of Local Emergency Planning Committees (LEPC) within districts to facilitate preparation and implementation of emergency plans.

## **C. State Response Plans**

Sections 301 and 302 of EPCRA provide for establishment of a State Emergency Response Commission (SERC) for each state and implementation of state emergency plans. State laws also require development of contingency plans. The Illinois Chemical Safety Act (ICSA) requires facilities to list chemicals in storage, the nature and circumstances of any release, and requires designation of an emergency coordinator. In Iowa, the Iowa Department of Agriculture and Land Stewardship (IDALS) maintains regulations and planning requirements governing containment of fertilizers and pesticides.

## **D. Area and Regional Contingency Plans**

Section 300.210(b) of the NCP provides for establishment of Regional Response Teams (RRT) and sets their role in implementation of RCPs. The NCP, § 300.210(c), provides for establishment of Area Committees (AC) and implementation of ACPs. Regions 5 and 7 have opted to integrate these requirements through creation of RICPs. RICPs also include elements of Emergency Support Function (ESF) 10 of the NRF and of the National



Incident Management System ([NIMS](#)) published in June 2016. Table 1 below lists RRTs having jurisdiction in states that comprise the Quad Cities Subarea (QCSA).

**TABLE 1: REGIONAL RESPONSE TEAMS**

Team	QCSA Jurisdiction	RRT Website
R5 RRT	Illinois, Rock Island County	<a href="#">Region 5 Regional Response Team</a>
R7 RRT	Iowa, Scott County	<a href="#">Region 7 Regional Response Team</a>

**E. National Plans**

**1. National Oil and Hazardous Substances Pollution Contingency Plan**

Section 300.2 of the NCP lists the various federal statutes that provide for establishment of the NRT and implementation of the NCP.

**National Response Framework**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707 (signed into law November 23, 1988) amended the Disaster Relief Act of 1974, PL 93-288. Subsequently, the National Response Plan (NRP) was developed. As required by Homeland Security Presidential Directive (HSPD)-5, the NRP provided a single, comprehensive approach to domestic incident management to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. The NRP was an all-hazards plan built on the template of the NIMS. As a result of lessons learned during the response to Hurricane Katrina, the NRP was modified and given a new name, the NRF. On March 28, 2008, the NRF became effective and superseded corresponding sections of the NRP. Neither the NRP nor the NRF supplanted the NCP. The NRF core document, ESF Annexes, and Support Annexes are available at the [NRF Resource Center](#).

### III. DESCRIPTION OF QUAD CITIES SUBAREA

#### A. Rationale for Subarea Creation

Subarea plans represent a collaborative approach to coordinate responses by all levels of government. OPA 90 required the Federal Government to establish ACPs throughout the United States to provide more coordinated, efficient, and thorough responses by local, state, and federal agencies to releases of oil. The NCP incorporated hazardous substances into this process because of the advantages of utilizing a single plan for spills of all types of hazardous materials (hazmat). Both EPA Regions 5 and 7 created only one ACP for their inland areas, while also developing subarea plans for specific sensitive areas within their respective regions. The QCSACP was created because of potential for impacts on high-value natural resources and the complex system of locks, dams, side channels, and backwaters that complicate response operations. Moreover, responders from all levels of government recognized the value of cross-border, regional planning.

#### B. Geography of the Subarea

The QCSACP comprises [Scott County, Iowa](#), and [Rock Island County, Illinois](#), and the cities contained therein. These include Princeton, LeClaire, Bettendorf, Riverdale, Davenport, and Buffalo in Iowa. Illinois cities include Moline, East Moline, Rock Island, Milan, Silvis, Cordova, Port Byron, and Rapid City. The area extends along the upper Mississippi River from river mile 507 just north of Cordova, Illinois, downstream to the Mercer/Rock Island County line at river mile 448.8. The combined population of the two counties exceeded 319,000 in 2020, with approximately 145,600 residents in Rock Island County and about 174,600 in Scott County.

#### C. Subarea Climate

Rock Island and Scott Counties are subject to substantial annual precipitation—37 to 42 inches falling as rain and snow. Winds during fall and winter are typically from the west and average 11 miles per hour, while spring and summer winds are from the south and average 8 miles per hour. Temperatures fluctuate from 40 to 85 degrees Fahrenheit during the spring and summer and from below 0 to 40 degrees from November to March. The area is one of the few along the Mississippi River without an effective levee system. Consequently, Moline and Davenport are susceptible to high waters originating from upstream precipitation.

## IV. ROLES AND AUTHORITIES OF GOVERNMENT AGENCIES

### A. Introduction and Assumptions

NIMS was adopted as the standard for incident management on March 1, 2004. Organizations and public agencies responding to an incident within the QCSA are expected to be familiar with the NIMS process, and to be prepared to integrate themselves into the NIMS framework and implement the [Incident Command System](#) (ICS).

### B. Local Governments

#### 1. Roles and Responsibilities of Local First Responders

During any fire or discharge of oil or hazardous substance, the local fire department with jurisdiction will respond and will initially provide an Incident Commander (IC) as response actions are initiated and while threats to life and human safety continue. The local police department will be responsible for traffic and crowd control on public property. If terrorism is suspected or if there is any reason to suspect a crime has been committed, local law enforcement will secure the scene. Local law enforcement and all other first responders will assist state and federal law enforcement authorities in collection and preservation of potential evidence.

Municipal public works departments will provide assistance if it is necessary to divert or prevent flow of contaminated materials through the stormwater or sewer system. Following QCSACP notification guidelines (see Section VII A, Protocol), the IC may notify state agencies if special expertise is needed, if the incident threatens impact beyond the local jurisdiction, or if hazardous wastes might be generated. The fire department commander, State On-Scene Coordinators (SOSC), FOSC, and RP—if the RP has been identified and is available—may agree to establish a Unified Command (UC) to manage the incident (see Section IX, Incident Command).

#### 2. Roles and Procedures of Local Emergency Management Agencies

##### LEPCs

Local emergency planning districts were set up as a result of SARA Title III. LEPCs may include representatives from local governmental agencies, emergency responders, environmental groups, and local industry. Several local emergency plans may exist within each district. The Local Emergency Response Plan (LERP), developed under Sections 301-303 of EPCRA, must include identities and locations of hazmat, procedures for responding to a chemical accident, procedures for notifying the public of necessary actions, names of coordinators of involved or threatened industrial plants, and schedules for testing the plan. A SERC must review each LERP. If a natural disaster produces an emergency, county-level emergency management agencies (EMA) will utilize their respective all-hazards local emergency operations plans (LEOP) along with portions of their LERP.

##### EMAs

If an incident produces, or threatens to produce, an emergency that could affect large numbers of people or off-site environments, or otherwise appears beyond the capacity of the local responders, Scott County EMA and/or Rock Island County EMA will become involved. EMAs may activate their respective emergency operations centers (EOC), initiate an evacuation, or take other steps to protect human health and the environment. Volunteers to assist with temporary housing or other aspects of the emergency will be called into the EOC as needed. Both Scott County EMA and Rock Island County EMA maintain a mobile command center that can be dispatched to the scene. Each mobile command center has space to accommodate a small

command group. A liaison at the scene will provide contact between the IC and the local EOC. EMAs will notify and coordinate with each other through their EOCs, if an incident involves or threatens to involve both counties.

### **Role of Hazmat Responders**

Depending on the nature and severity of an incident, hazmat teams providing service to the affected jurisdiction(s) may be requested. The Davenport Fire Department (FD) and Bettendorf FD in Iowa maintain hazmat teams capable of providing technician-level, offensive hazmat operations. The Davenport Hazmat Team has jurisdiction in Scott County west of U.S. Highway 61; the Bettendorf Hazmat Team has jurisdiction in Scott County east of U.S. Highway 61, and is also a member of the [Mutual Aid Box Alarm System \(MABAS\)](#) 43 Hazmat Response Team.

In Illinois, several area FDs (Rock Island FD, Rock Island Arsenal FD, Moline FD, and East Moline FD) come together to provide advanced hazmat response capabilities through the MABAS 43 Hazmat Response Team. Rural FDs such as Port Byron and Cordova FD are also in MABAS Division 39 and are available to render mutual aid assistance. MABAS Division 39 also provides hazmat response services to Scott County. MABAS has rapidly grown throughout the States of Illinois, Wisconsin, Indiana, Michigan, and parts of Iowa and Missouri. Day-to-day MABAS extra alarms are systematically designed to provide speed of response of emergency resources to the stricken community during an ongoing emergency. In addition to conventional fire suppression, hazmat response, and emergency medical services (EMS), MABAS offers specialized teams for underwater rescue/recovery (9 teams), technical rescue (29 teams), and a state-sponsored urban search and rescue team. Additional resources available through MABAS include certified fire investigators and Incident Management Team members.

## **C. States**

Under the NCP, 40 CFR § 300.180, each governor is asked to assign an office or agency to represent his/her state on the RRT. Each state's representative may participate fully in all facets of RRT activity, and shall designate the appropriate element of the state government that would undertake direction of state-managed responses to releases of oil or hazardous substances. Each state RRT member also represents and coordinates RRT involvement of various other state, county, and municipal organizations.

### **1. State of Illinois**

#### **Illinois Environmental Protection Agency**

The [Illinois Environmental Protection Agency \(IEPA\)](#) serves as a Co-State Natural Resource Trustee and will provide a SOSOC for responses to spills/discharges affecting or threatening jurisdictions within Illinois. To prevent and abate environmental pollution, IEPA has various responsibilities for responding to environmental emergencies within the State or its adjoining waters. IEPA is the State's lead agency for developing plans and coordinating action before, during, and after certain emergency situations, including:

- Emergencies involving waste management
- Emergencies involving public water supplies
- Spills of oil or hazardous materials upon waters or lands of the State
- Releases of harmful quantities of toxic substances to the atmosphere.

Within IEPA, the Emergency Response Unit (ERU) of the Office of Chemical Safety is responsible for coordinating the agency's response and ensuring appropriate cleanup of any subsequent environmental contamination. ERU collects information about environmental emergencies and responds directly and/or notifies other divisions within IEPA of needed action. Technical expertise is provided to first responders and public officials, addressing such issues as:

- Physical, chemical, and toxicological characteristics of the materials involved
- Effective response and treatment actions
- Precautions to be taken to prevent further injury or damage to public health or the environment.

Incident reports are routinely evaluated by the IEPA Duty Officer to determine whether an immediate response is appropriate; and, if so, whether that should be a response by telephone, a visit to the scene, or a request to a support agency or a local agency for an on-scene assessment. When the response of the RP and of local responders is adequate, IEPA will oversee, advise, and assist as necessary within the established ICS, as per 29 CFR 1910.120 (a). If incident demands exceed state resources, IEPA will request federal resources through the established channels consistent with the NCP and the NRF.

### **Other Illinois Agencies**

[Illinois Emergency Management Agency \(IEMA\)](#): Serves as coordination and communications center for Illinois State agencies, and is in overall command of emergency government efforts during major multijurisdictional disaster responses. IEMA is also the SERC, designated pursuant to SARA Title III.

[Illinois Department of Natural Resources \(IL DNR\)](#): Responsible for assessment of natural resource damage in incidents involving serious environmental injury, such as fish kills and oiled waterfowl.

[IEMA Division of Nuclear Safety](#): Responds to incidents involving radiological materials, whether in transport or at nuclear power plants or other facilities.

[IL DNR Office of Mines and Minerals](#): Carries out initial investigation of incidents involving crude oil and natural gas production sites, unless waters of the state are being impacted (in which case, the role is assumed by IEPA).

[Illinois State Fire Marshall](#): Responds to incidents involving underground storage tanks (UST); this responsibility is shared with IEPA. Has the authority to require equipment inspection and testing.

[Illinois Commerce Commission](#): Investigates incidents involving railroad transport, and has authority over use, movement, and compliance of railroad equipment with U.S. Department of Transportation (DOT) regulations.

[Illinois State Police](#): Responds to transportation incidents involving DOT Hazardous Materials, and is responsible for enforcement of DOT shipping regulations, traffic control, and security.

Other agencies serve secondary roles and provide technical support and resources as needed. However, they do not generally maintain an emergency response capability for on-scene response. These agencies include the U.S. Departments of Agriculture (USDA), Public Health, and Energy and Natural Resources; the Office of the Attorney General; and other human service agencies that might be involved with evacuees, should a prolonged incident occur requiring relocation of the general public.

## 2. State of Iowa

The [Iowa Department of Natural Resources \(IA DNR\)](#) is the enforcement agency for environmental laws in Iowa. When an incident threatens public safety, IA DNR coordinates requests for assistance from state agencies and acts as the liaison to federal officials. Personnel from the Environmental Services Division are available 24 hours a day to provide regulatory oversight of RPs and offer technical assistance to responding agencies. IA DNR will provide a SOSC, as well as support staff from various field offices, primarily Field Office # 6 in Washington, Iowa. The SOSC will respond to the scene after assessing available information and determining whether an on-site response is necessary, or when an SOSC's presence is requested by another local, state, or federal agency. The SOSC coordinates the response of state agencies and serves as a liaison with federal officials at the scene of the incident. Requests for disposal of materials following cleanup of the site should be coordinated through IA DNR. As the State's natural resource trustee, IA DNR works with the U.S. Fish and Wildlife Service (USFWS) and partner agencies to assess damages and to restore natural resources (as circumstances allow) lost or injured due to spill. Data acquired are used to determine the extent of damage to natural resources, to develop restoration or replacement strategies, and to develop and submit a claim for damages to the RP in order to implement the most appropriate restoration actions.

### Other Iowa Agencies

[Iowa Homeland Security and Emergency Management \(HSEMD\)](#): Coordinates the State's disaster mitigation, preparedness, response, and recovery programs and activities; administers the Iowa Emergency Response Commission; and maintains a 24-hour Duty Officer and State EOC (SEOC). The SEOC acts as lead in crisis/consequence management response and operations to notify, activate, deploy, and employ state resources—including specialized teams and assets—in response to large-scale spills/discharges. HSEMD also assists in improving communities' preparedness for handling chemical accidents, promoting cooperation among state and local government and industry, increasing public awareness of chemicals in the community, and building information databases.

[Iowa Department of Transportation \(IDOT\)](#): Maintains resources typically used in highway maintenance activities, such as trucks, heavy equipment, sand, rock, etc. Each maintenance garage has a supply of hydrophilic absorbents, including 10-foot booms, 4-foot socks, and pads. Several garages also stock all-purpose, silica-based absorbents. Material resources can be acquired from IDOT in two ways, depending on the highway involved:

Iowa's Primary Highway System: Resources are available for use on the Iowa primary highway system through requests by governmental subdivisions. Resource requests should be submitted to the District Operations Manager or the District Maintenance Manager.

Outside Iowa's Primary Highway System: If the above-cited absorbents are needed for an emergency response to a hazmat spill off the primary highway system, local governmental subdivisions may request these materials by contacting the listed contact persons or the local IDOT garage. The local governmental subdivision has the responsibility to replace expended materials by purchasing supplies directly from IDOT's warehouse.

IDOT also controls overhead dynamic message signs (DMS) and portable DMSs accessible during a hazmat/oil incident. IDOT emergency operations staff can activate DMS messages. During incidents when the IC believes such messaging is needed to protect the public from hazards or assist response efforts, the IC or a designate

should request placement of a message on the signs by contacting IDOT Statewide Emergency Operations. Contact information for IDOT's 24/7 EOC is in Appendix I.

## D. Federal

### 1. National Response System (NRS) and Policies

The [NRS](#) is the mechanism for coordinating response actions across all levels of government in support of the OSC/Remedial Project Manager (RPM). The NRS is composed of the NRT, RRTs, OSC/RPM, ACs, and specialized response teams and their related support entities. NCP § 300.105 describes the general organization of the federal agencies, the NRT, the RRT, the FOSC, and the AC. Sections 300.110 and 300.115 detail structures of the NRT and the RRT. The NCP provides for an RRT whose agency membership parallels that of the NRT, and for inclusion of state and local representation.

### 2. U.S. Environmental Protection Agency

#### EPA Region 5 Responsibilities

[EPA Region 5](#) is responsible for responses to discharges or releases, or to a substantial threat of discharges or releases of a pollutant from a source originating within EPA Region 5—specifically releases occurring on the Illinois side of the Mississippi River in the QCSA. EPA Region 5, based in Chicago, Illinois, will provide an FOSC for investigating and responding to such releases, unless the spills originate from a commercial vessel, a vessel transfer operation, or a marine-transportation-related facility. In these cases, USCG is pre-designated to provide an FOSC. Should a discharge or release upstream from the Quad Cities area threaten both sides of the river, EPA will provide an FOSC as stipulated by the [Upper Mississippi River Spill Response Plan and Resource Manual](#). EPA Region 5 will also notify IEPA, which has responsibility for notifying operators of downstream water intakes, of any releases that might impact their operations. When appropriate, EPA Region 5 will provide an RPM for remedial actions and coordinate response support during an incident.

#### EPA Region 7 Responsibilities

[EPA Region 7](#) is responsible for responses to discharges or releases, or to a substantial threat of discharges or releases of a pollutant from a source originating within EPA Region 7—specifically releases occurring on the Iowa side of the Mississippi River in the QCSA. EPA Region 7, based in Lenexa, Kansas, will provide an FOSC for investigating and responding to these releases. EPA Region 7 also maintains staff in the St. Louis Area available to respond and to serve as the FOSC in charge. Spills that originate from a commercial vessel, a vessel transfer operation, or a marine-transportation-related facility are addressed by the USCG, which is pre-designated to provide an FOSC in these cases. EPA will notify IA DNR, which has responsibility for notifying operators of downstream water intake operators of releases that may impact their operations.

A Memorandum of Understanding (MOU) for mutual aid assistance is in place between EPA Regions 5 and 7, providing for cross-regional emergency and removal response activities.

### 3. USCG Eighth District, Marine Safety Detachment Quad Cities

Through [Sector Upper Mississippi River \(UMR\)](#), the USCG Eighth District provides expertise in: (1) port safety and security; (2) marine law enforcement, navigation, and construction; and (3) safe operation of vessels and marine facilities. Through continuously manned facilities such as the Marine Safety Detachment Quad Cities,

USCG is capable of command, control, and surveillance of oil or hazardous substances releases on the UMR and its tributaries.

Under a Memorandum of Agreement (MOA) between EPA and USCG signed on February 9, 2010, USCG will assist the pre-designated EPA FOSC to the fullest extent possible consistent with agency responsibilities and authorities. If an incident involves a commercial vessel, a vessel transfer operation, or a marine-transportation-related facility, the USCG Captain of the Port (COTP) will assume the role of the FOSC and will carry out all FOSC responsibilities, including the decision to direct any necessary removal activity or to open the [Oil Spill Liability Trust Fund \(OSLTF\)](#). If an incident originates from another or an unknown source, USCG will assist the EPA FOSC to the fullest extent possible in accordance with the NCP and applicable RCP/RICP. Upon request of the pre-designated EPA FOSC, the COTP may act upon the FOSC's behalf.

#### 4. Roles and Responsibilities of the FOSC

The FOSC may direct response efforts and coordinate all other efforts at the scene of a discharge or release in accordance with the NCP, RICP/RCP, applicable subarea plan(s), and prevailing state and local plans. FOSCs shall be designated by the EPA Regional Administrator of Region 5 and/or Region 7. The U.S. Department of Defense (DOD) and U.S. Department of Energy (DOE) shall designate a FOSC, according to NCP § 300.120(c) and (d), if their facilities or properties are involved in the discharge or release. Other federal agencies are responsible for **non-emergency** removals, as stated in NCP § 300.120(c)(2).

The FOSC will direct federal resources and coordinate all federal containment, removal, and disposal efforts during an incident. The FOSC is the point of contact between federal resources and other entities involved such as RPs, state responders, and local response communities. The FOSC may work within an established IC structure or develop a UC to direct the activities of responding entities in accordance with the NCP. In extreme circumstances, when it is evident the RP is unwilling or unable to adequately respond to a spill/release, the FOSC may assume full authority over the cleanup, including funding of the response through Superfund or the OSLTF. In such cases when the response is "federalized," written notice will be provided to the RP and efforts will be made to recover costs from the RP. The Region 5 and/or 7 RRT can be convened to provide guidance to the FOSC or to assist coordination activities during a major event.

Tasks such as air monitoring during the emergency phase of an incident can be provided by the FOSC responding with members of the Superfund Technical Assessment and Response Team (START). Such actions would be conducted within an IC or UC structure, with transfer of command responsibilities to the FOSC or the SOSC of the affected state during the cleanup and recovery phases. FOSCs, to the extent practicable, should ensure that their on-scene representatives are adequately trained and prepared to carry out actions under the NCP and applicable regional plans.

The normal sequence of actions a FOSC should take when a discharge of oil is reported is detailed in NCP § 300.320 as follows:

- (a) When the On-Scene Coordinator (OSC) receives a report of a discharge, actions normally should be taken in the following sequence:
  - (1) Investigate the report to determine pertinent information such as the threat posed to public health or welfare of the United States or the environment, type and quantity of polluting material, and source of the discharge.
  - (2) Officially classify the size (i.e., minor, medium, major) and type (i.e., substantial threat to the public health or welfare of the United States, worst-case discharge) of the discharge, and determine the



course of action to be followed to ensure effective and immediate removal, mitigation, or prevention of the discharge. Some discharges classified as a substantial threat to the public health or welfare of the United States may be further classified as spills of national significance by the Administrator of the EPA or the Commandant of the USCG. The appropriate course of action may be prescribed in §§ 300.322, 300.323, and 300.324.

- (i) When the reported discharge is an actual or potential major discharge, the OSC shall immediately notify the RRT and the [National Response Center \(NRC\)](#).
  - (ii) When the investigation indicates occurrence of an actual or potential medium discharge, the OSC shall recommend activation of the RRT, if appropriate.
  - (iii) When the investigation indicates occurrence of an actual or potential minor discharge, the OSC shall monitor the situation to ensure that proper removal action is occurring.
- (3) If the OSC determines that effective and immediate removal, mitigation, or prevention of a discharge can be achieved by private party efforts, and where the discharge does not pose a substantial threat to the public health or welfare of the United States, determine whether the RP or other person is properly carrying out removal. Removal occurs properly when both of the following are met:
  - (i) The RP is applying the resources called for in its response plan to effectively and immediately remove, minimize, or mitigate threat(s) to public health and welfare and the environment.
  - (ii) Removal efforts accord with applicable regulations, including the NCP. Even if the OSC supplements RP resources with government resources, the spill response will not be considered improper unless specifically determined so by the OSC.
- (4) Where appropriate, determine whether a state or political subdivision thereof has the capability to carry out any or all removal actions. If so, the OSC may arrange funding to support these actions.
- (5) Ensure prompt notification of the trustees of affected natural resources in accordance with the applicable RCP and ACP.
- (6) Ensure that the notifications and actions required in 300.135, the Fish and Wildlife Sensitive Environments Plan, have been performed. If not, the OSC will perform those notifications and subsequent actions.
- (7) When appropriate, activate federal response using the OSLTF for oil discharges or the CERCLA Hazardous Substances Response Trust Fund for hazardous substances releases.
- (8) Removal shall be considered complete when so determined by the OSC in consultation with the governor or governors of the affected states. When the OSC considers removal complete, OSLTF removal funding shall end. This determination shall not preclude additional removal actions under applicable state law.

## **5. FOSC and U.S. Fish and Wildlife Service (USFWS) Responsibilities under the Endangered Species Act (ESA)**

The following is a summary of FOSC/IC and USFWS responsibilities under the ESA, implementing regulations, and the inter-agency MOA Regarding Oil Spill Planning and Response Activities Under the Federal Water Pollution Control Act's National Oil and Hazardous Substances Pollution Contingency Plan and the ESA (ESA MOA).

**FOSC/IC Responsibilities During a Spill Response**

- If fish and wildlife resources may be affected by a discharge or release, notify federal, state, and tribal trustees and managers, and consult with them on removal actions to be taken.
- If listed species and/or critical habitat are or could be present, immediately contact USFWS to initiate emergency consultation pursuant to the ESA, implementing regulations, and the ESA MOA.
- Keep USFWS and DOI RRT/AC representatives apprised of ongoing response actions.
- Document any adverse effects on listed species or their habitat.
- Maintain a record of all oral and written communications with USFWS during the response.

**USFWS Responsibilities During a Spill Response**

- Provide the FOSC/IC timely recommendations on actions to avoid or minimize impacts on listed species and/or their habitats throughout the duration of the response.
- Respond to requests for emergency consultation pursuant to the ESA, implementing regulations, and the ESA MOA.
- If incidental take is anticipated, advise the FOSC/IC.
- Upon request, participate in ICS operations and the UC.
- Maintain a record of all oral and written communications with the FOSC/IC during the response.

**FOSC/IC Responsibilities Post-response**

- If listed species or critical habitat have been adversely affected by response activities, initiate formal consultation with USFWS pursuant to the ESA, all implementing regulations, and the ESA MOA. See Annex V of the [Region 7 RICP](#) or [Appendix VII of the Region 5 RCP/ACP](#) for specific requirements and procedures.

**USFWS Responsibilities Post-response**

Respond to requests for formal consultation in accordance with the ESA, all implementing regulations, and the ESA MOA.

## V. TECHNICAL SUPPORT AVAILABLE TO THE FOSC

In addition to the support provided by the RRT, various sources of technical support are available to the FOSC either through telephone contact or actual dispatch of teams to the field. Support agencies and groups available to the FOSC include the following.

### 1. The USCG National Strike Force (NSF)

#### USCG Strike Teams (Atlantic, Gulf, and Pacific)

Phones of the three USCG Strike Teams are answered 24 hours a day. If the Strike Team contacted is already committed, another Strike Team will be deployed. Each Strike Team maintains trained personnel and specialized equipment to assist with training in responding to spills, stabilizing and containing spills, and monitoring and/or directing response actions of the RPs and/or contractors. The QCSA is covered by the [Atlantic Strike Team](#), based in Lakehurst, New Jersey; however, the [Gulf Strike Team](#) in Mobile, Alabama may be mobilized in response to a discharge to the UMR.

#### The National Strike Force Coordination Center

The [National Strike Force Coordination Center \(NSFCC\)](#) Manages the [NSF](#), which is authorized as the National Response Unit required under OPA, with responsibility for administering the USCG Strike Teams, maintaining response equipment inventories and logistical networks, and conducting national exercise programs including pollution response exercises. The NSFCC offers the following: technical assistance and equipment for spill response, assistance in coordinating resources during oil discharge response, ACP or RCP/RICP review, coordination of spill response resources information, and inspection of district response equipment. The Strike Teams provide trained personnel and specialized equipment to assist the FOSC in training for spill response, stabilizing and containing the spill, and monitoring or directing response actions of the RPs and/or contractors.

#### Public Information Assist Team (PIAT)

[PIAT](#) is an element of the NSFCC staff available to assist the FOSC to meet the demands for public information during a response or exercise. Its use is encouraged any time the FOSC requires outside public affairs support. Requests for PIAT assistance may be made through the NSFCC or NRC.

### 2. EPA Environmental Response Team (ERT)

In the event of a continuing release or discharge, the FOSC has access to [EPA's ERT](#), stationed in Edison (New Jersey), Cincinnati (Ohio), Las Vegas (Nevada), and Research Triangle Park (North Carolina). The ERT provides Scientific Support Coordinators (SSC) with expertise in treatment technology, biology, chemistry, hydrology, geology, and engineering. The ERT also has access to special decontamination equipment and can provide advice on a wide range of issues such as a multimedia sampling and analysis program, on-site safety (including development and implementation plans), cleanup techniques and priorities, water supply decontamination and protection, application of dispersants, environmental assessment, degree of cleanup required, and disposal of contaminated material. The FOSC may designate an SSC as principal advisor on scientific issues who also communicates with the scientific community and assists in requests to state and federal agencies.

Additionally, the ERT provides both introductory and intermediate training courses to prepare response personnel. Requests for ERT support should be made to the EPA representative on the RRT or the appropriate EPA regional emergency coordinator.

### **3. EPA Chemical, Biological, Radiological, and Nuclear (CBRN) Consequence Management Advisory Team (CMAT)**

The [CBRN CMAT](#), present at five geographic locations, provides 24/7 scientific and technical expertise to the OSC or response customer for all phases of consequence management, including sampling, decontamination, and clearance. With a focus on operational preparedness, CBRN CMAT facilitates transition of the latest science and technology to the field response community in order to provide tactical options for screening, sampling, monitoring, decontamination, clearance, waste management, and toxicological/exposure assessment during decontamination of buildings or other structures following an incident involving releases of radiological, biological, or chemical contaminants. CBRN CMAT maintains critical partnerships with: (1) EPA's National Homeland Security Research Center and the EPA's special teams; (2) other federal partners including the U.S. Department of Homeland Security (DHS), Federal Bureau of Investigation, DOD, and Centers for Disease Control and Prevention (CDC)/Department of Health and Human Services (HHS); and (3) international partners.

### **4. United States Navy Supervisor of Salvage (SUPSALV)**

[SUPSALV](#) has an extensive salvage/search and recovery equipment inventory, and the requisite knowledge and expertise to support these operations, including specialized salvage, firefighting, and petroleum, oil, and lubricants offloading capability. SUPSALV can provide equipment for training exercises in support of national and regional contingency planning objectives. The OSC may request assistance directly from SUPSALV. Formal requests are routed through the Chief of Naval Operations.

### **5. EPA Radiological Emergency Response Team (RERT)**

[RERTs](#) have been established by EPA's Office of Radiation Programs (ORP) to provide response and support during incidents or at sites containing radiological hazards. Expertise is available in radiation monitoring, radionuclide analysis, radiation health physics, and risk assessment. RERTs can provide on-site support including mobile monitoring laboratories for field analysis of samples, as well as fixed laboratories for radiochemical sampling and analyses. Request for support may be made 24 hours a day via the NRC or directly to the EPA Radiological Response Coordinator in the ORP.

### **6. USCG District Response Group (DRG)**

DRGs assist the OSC by providing technical assistance, personnel, and equipment, including pre-positioned equipment. Each DRG maintains all required types of USCG personnel and response equipment, including marine firefighting equipment and additional pre-positioned equipment. The [USCG's Eighth District Response Advisory Team \(DRAT\)](#) is available to provide support to the OSC if a spill exceeds local response capabilities.

### **7. USCG National Pollution Funds Center (NPFC)**

[NPFC](#) is responsible for implementing those portions of OPA Title I delegated to the Secretary of the Department in which the USCG is operating. NPFC is responsible for addressing funding issues arising from actual and potential discharges of oil. Responsibilities of the NPFC include: (1) issuing Certificates of Financial Responsibility to owners and operators of vessels to pay for costs and damages incurred by their vessels as a result of oil discharges, (2) providing funding to various response organizations for timely abatement and removal actions related to oil discharges, (3) providing equitable compensation to claimants who sustain costs and damages from oil discharges when the RP fails to do so, (4) recovering monies from persons liable for costs and damages resulting from oil discharges to the full extent of liability under the law, and (5) providing funds to initiate natural resource damage assessment (NRDA) activities.

## 8. National Oceanic and Atmospheric Administration (NOAA)

### National Weather Service

The National Weather Service (NWS), a federal organization within NOAA, can provide various types of support to an IC/UC operating in the QCSA through its [office in Davenport, Iowa](#). The IC will be provided with a direct unlisted number to the lead forecaster's desk, through which continuous information on wind speeds, temperatures, and other atmospheric data can be obtained.

In addition, NWS has letters of agreement with both states in the subarea. Under these agreements, a state emergency management agency can contact NWS, triggering immediate notifications to commercial radio systems through the Emergency Alert System ([EAS](#)). EAS provides a means of disseminating emergency public information regarding evacuation, sheltering in-place recommendations, and other actions intended to protect the public from hazardous conditions associated with a spill. Contact information regarding the NWS office in Davenport is in Appendix F.

### Scientific Support Coordinators (SSC)

NOAA may provide information regarding various scientific and technical subject matters. As does the ERT, NOAA's SSCs offer a wide variety of expertise. NOAA has mathematicians and physicists who can provide computer modeling and simulation studies, research and planning groups that can determine resources at risk and recommend techniques for cleanup, an environmental science group that can provide technical assistance regarding chemical identification and degradation of oil, a biological assessment group that can perform long-term studies and planning, and an information management group that can produce computerized maps.

## 9. Illinois Department of Natural Resources (IL DNR)

IL DNR's [Office of Law Enforcement](#) and District 6 staff, who cover the Quad Cities area, are familiar with the Mississippi River and sensitive environments in the area. In most instances, a conservation officer can respond within an hour to any location within the QCSA. An initial response would likely draw on one officer each from Rock Island and Henry counties, with a third from Mercer County, should conditions demand it. Because of their regular duties, officers possess intimate knowledge of many remote areas not regularly visited by the public. Personnel can assist in identifying sensitive resources in the spill area, assist in determination of access to isolated areas, and provide specialized equipment needed to access remote areas in some cases.

Wildlife biologists are also available through IL DNR. These personnel can provide locations of environmentally sensitive areas and advice on how seasonal changes affect animal concentrations or movements. If natural resources are harmed or threatened by a discharge of oil or release of hazardous substances, biologists can assist in the location of licensed and properly trained wildlife rehabilitators, and can help with recovery of injured birds and animals. Wildlife biologists can also coordinate watercraft needed for damage assessment activities. Additionally, biologists can provide guidance when mitigation activities such as soil excavation, roadbuilding, steam-cleaning, addition of chemical agents, or in situ burning could cause more damage to natural resources than exposure to oil or hazardous substances.

Responsibility for the Mississippi River fishery rests with the [IL DNR Office of Resource Conservation, Division of Fisheries](#) office in Aledo, Illinois, while requests for guidance on smaller streams and lakes in the Quad Cities area should be directed to the IL DNR Region 1 Streams office in Havana, Illinois, or to the Rock Island County fisheries manager, stationed at the Hennepin Canal Parkway in Sheffield, Illinois. Notifications of fish kills should be made to the Office of Resource Conservation, Division of Fisheries Director in Springfield, Illinois. Field

investigations of reported fish kills are carried out by the Division of Fisheries and Office of Law Enforcement and IEPA field staff. A Fisheries biologist establishes the limits of the fish kill, sets up counting stations, and determines the species and numbers killed. In addition to the fish kill assessment, the Division of Fisheries may provide information regarding the location of sensitive aquatic natural resources, boats for transportation, and other technical assistance.

## 10. Contractors

Many RPs maintain contracts with Oil Spill Removal Organizations (OSRO) and/or hazmat responders to handle spills that may occur. RPs are responsible for NRDA in conjunction with the natural resource trustee, and may retain contractors to conduct such assessments. EPA Regions 5 and 7 maintain region-specific START and Emergency and Rapid Response Services (ERRS) contractors to facilitate emergency responses and cleanups. Any contractor responding to a spill will answer to the agency providing its funding unless all parties agree to arrangements for other supervision. Any contractor responding to a spill will respond to the agency providing its funding, unless arrangements for supervision by other agencies are agreed to by all parties. Both the IA DNR and the IEPA maintain lists of available emergency response contractors.

## 11. Multi-agency Response and Planning Groups

### RRTs and ACs

The functional role of RRTs in both Region 5 and Region 7 has two principal components. One is as the standing team whose duties involve communications systems and procedures, planning, coordination, training, evaluation, preparedness, and related matters within each RRT's respective region. The RRT also may assemble an incident-specific team, as determined by the operational requirements of a response to a specific discharge or release. The RRT has responsibility for developing an RCP/RICP and for assisting the FOSC when guidance, coordination, or resources are needed to provide an adequate response to an incident. The RRT includes a representative from each state within the federal region, and representatives from 15 federal agencies available to provide assistance or resources during such a response. EPA and the USCG co-chair the RRT, which does not respond directly to the scene, but instead responds to developments and requests from the FOSC in accordance with relevant contingency plans. Subareas have been established in both regions to develop more detailed plans for sensitive areas and to be more inclusive of industry and other nongovernmental entities in planning activities. Semiannual meetings of the Region 5 and Region 7 RRTs occur in spring and fall of each year. These RRTs generally conduct a joint meeting every 3 to 5 years.

### Subarea Committees

The QCSA committee was formed and functions under the authority granted by the Region 5 and 7 RRTs. The core membership of the QCSA Committee includes one EPA OSC each from Regions 5 and 7, a USCG officer, one representative from IA DNR, one representative from IEPA, and one representative from each local EMA within the boundaries of the of the subarea, as well as representatives of local fire departments.

## 12. Natural Resource Trustees

CERCLA and OPA authorize the United States, states, and Indian Tribes to act on behalf of the public as Natural Resource Trustees for natural resources under their respective trusteeships (CERCLA §107(f)(1); OPA §1006(c)). OPA also authorizes foreign governments to act as Trustees (OPA §1006 [b][5]).

Trustees often have information and technical expertise about the biological effects of hazardous substances, as well as locations of sensitive species and habitats, that can assist EPA in characterizing the nature and extent of site-related contamination and impacts. Coordination at the investigation and planning stages provides the Trustees with early access to information they need to assess injury to natural resources. This assists Trustees in making early decisions about whether restoration is needed in light of the response actions and should generally result in more efficient settlement negotiations and an opportunity to address all liabilities at the site concurrently (see [Office of Solid Waste and Emergency Response \[OSWER\] Directive 9200-4.22A](#); [CERCLA Coordination with Natural Resource Trustees, 1997](#)).

### **NRDA**

Following a hazardous release or discharge, natural resource trustees have responsibilities for assessing resulting injury to the environment. NRDA is the process by which trustees collect, compile, and evaluate data to determine the extent of injury to natural resources. The information gathered is used to assess damages, determine the dollar amount necessary to restore injured trust resources or compensate for lost use of resources, and seek recovery of those damages from the RP. NRDA's are typically initiated concurrent with response activities.

Initiation of an NRDA usually involves acquiring data both during and after a spill to document: (1) oil or hazardous substances in water, sediments, soil, and organisms; (2) effects on fish, wildlife, and/or their habitat; (3) exposure pathways; and (4) measures taken to prevent or reduce immediate migration of oil or hazardous substances onto or into a trust resource. To avoid duplication of response activities specified in an NRDA with other response activities, all sampling and field work by natural resource trustees should be coordinated with the lead response agency.

If natural resources are injured by a discharge or release of a mixture of oil and hazardous substances, DOI regulations apply. NOAA regulations apply only in assessing damages that may result from discharges of oil.

### **State Natural Resource Trustees**

State Trustees shall act on behalf of the public as Trustees for the natural resources within a state's boundaries or for resources belonging to, controlled by, or appertaining to a state (40 CFR §300.605). State official(s) are designated by the Governor of each state to act as trustee for the state's trust resources, which include surface water and groundwater. The designated official is normally the head of an agency responsible for environmental protection or fish and wildlife management, although the Governor can delegate responsibility to any entity (OPA §1006 [b][3]). States may also designate more than one Trustee agency.

State Trustees act on behalf of the public for natural resources—including groundwater and surface water, and the resources' supporting ecosystems that are: (1) within the boundary of the State, and (2) belonging to, managed by, controlled by, or appertaining to the State. For QCSA states, the Directors of IL DNR and the IEPA serve as co-trustees for Illinois, and the Director of IA DNR has been designated the natural resources trustee for Iowa.

**Role of Iowa Natural Resource Trustee:** During an environmental emergency, an SOSC from IA DNR will act on its behalf to coordinate response actions across IA DNR divisions to prioritize and protect natural resources, assess any damages, and arrange for remediation and recovery. This includes all natural resources not owned or directly managed by federal trustees. The SOSC will be a member of IA DNR's Environmental Services Division who will seek the advice and assistance of representatives of the Conservation and Recreation Division. Members of this division can provide information regarding

environmentally sensitive areas and endangered species and assist in establishing priorities for protecting threatened resources.

Any actions to prevent or correct damage to areas directly managed by local, state, or federal governments will be determined and/or approved by the agency managing that area. The SOSOC must consult with representatives of the other divisions of IA DNR whenever practical, and will follow their recommendations regarding mitigation, sampling, and remediation whenever feasible. When an incident threatens the public health and safety, the SOSOC has final authority to determine appropriate actions.

**Role of Illinois Natural Resource Trustees:** As in other states, CERCLA and the NCP require prompt notification of natural resource trustees by the FOSC and/or RPM. Furthermore, the FOSC/RPM is required to coordinate response activities (e.g., assessments, evaluations, investigations and planning) through natural resource trustees.

In Illinois, IL DNR and IEPA jointly administer responsibilities for protecting natural resources in the State. Natural resources are broadly defined under CERCLA and OPA to include “land, fish, wildlife, biota, air, water, ground water, drinking supplies and other such resources...” A natural resource damage can arise from injury to, destruction of, or loss of natural resources resulting from a release of a hazardous substance or discharge of oil. The co-natural resource trustees of the State maintain joint obligations under the CWA, CERCLA, and OPA as follows:

- Respond to natural resource violations (i.e., oil spills and hazardous substance releases).
- Assess/recover damages to natural resources.
- Collect compensation for damages by hazardous substances, including an option to remediate or restore said damages.
- Make the environment and public whole following injury to natural resources, as well as services lost resulting from an oil spill.

Goals of the trustees are to return injured natural resources to their pre-oil spill or pre-hazardous substances release condition, and to compensate for interim losses and services through restoration, rehabilitation, replacement, or acquisition of equivalent natural resources or services.

### **Federal Natural Resource Trustees**

CERCLA §107(f)(2)(A) requires the President to designate in the NCP federal officials to act on behalf of the public as Trustees for natural resources under federal trusteeship. Section 300.600 of the NCP designates the Secretaries of the following cabinet-level Departments to act as Trustees for the natural resources, subject to their respective management or control:

#### **DOD**

The Secretary of DOD maintains trusteeship over the natural resources on all lands owned by DOD or the Army, Navy, Air Force, and Defense Logistics Agency. These lands include military bases and training facilities, research and development facilities, and munitions plants.

#### **DOI, USFWS**

The Secretary of the Interior acts as trustee for resources managed or protected by DOI Bureaus, including USFWS. USFWS is responsible for management of migratory birds, federally listed endangered and threatened



species, and interjurisdictional fishes within the QCSA. While National Wildlife Refuge lands are upstream and downstream of the QCSA, none fall within the subarea's boundaries. IL DNR and the Illinois Nature Preserve Commission manage several protected areas—including areas downstream of the I-280 Bridge and throughout Pool 16.

When a spill occurs, USFWS staff stationed at the [Rock Island Ecological Services Field Office](#) will provide timely response guidance necessary to protect wildlife from exposure, including priorities for and timing of response actions to be taken. Protective measures may include containment of oil before reaching areas where migratory birds and wildlife are located or deterring birds or other wildlife from entering areas by use of wildlife hazing devices or countermeasures.

If exposure of birds and other wildlife to oil or hazardous substances cannot be prevented, an immediate decision will be made regarding rescue and rehabilitation of "oiled" birds and other wildlife. USFWS has statutory responsibilities for protecting migratory birds and federally listed threatened and endangered species. In such cases, the USFWS would serve as the lead administrative trustee, coordinating with other trustees and providing oversight of a qualified wildlife responder. If an incident does not involve migratory birds or federally listed threatened or endangered species, a state natural resource trustee may serve as the lead agency.

Decisions to rescue and rehabilitate "oiled" wildlife must be made in conjunction with other federal and state natural resource agencies. Wildlife rehabilitators will need federal and state permits to collect, possess, and band migratory birds and threatened/endangered species. Further information is in Fish and Wildlife and Sensitive Environments (Appendix A.1) of the [Region 7 RICP](#) and [Appendix VII of the Region 5 RCP/ACP](#).

### **U.S. Army Corps of Engineers (USACE)**

The USACE Rock Island District, as a federal trustee of land, outgrants the majority of its fee title holdings to the USFWS through the 1963 Cooperative Agreement between the two agencies. Approximately 40 percent of the 83,600 acres of land provided to USFWS has been subsequently provided to the states for fish and wildlife management through a step-down agreement. These lands are often referred to as GS or General Plan lands.

In the vicinity of the Quad City pools, running from the mouth of the Wapsipinicon River in Mississippi River Pool 13 to the mouth of the Iowa River in Mississippi River Pool 18, lands are within both the Upper Mississippi River National Fish and Wildlife Refuge and the Mark Twain National Wildlife Refuge. IA DNR and IL DNR manage General Plan lands outside of the refuges' boundaries.

Though USACE retains basic stewardship responsibility for lands managed by others, the lead role in responding to oil or hazardous substances spills and their threat to fish and wildlife resources lies with USFWS, IA DNR, and IL DNR. USACE-owned and managed natural resource lands within the boundaries of the QCSA are included in Appendix M. USACE will assist where it can in consort with other agencies, as need arises.

### **13. State Historic Preservation Officers (SHPO)**

Section 106 of the National Historic Preservation Act requires federal agencies to take into account effects of their undertakings on historic properties and afford states a reasonable opportunity to comment on such undertakings. This Section specifies procedures federal agencies are to implement to meet these statutory responsibilities. Section 106 accommodates historic preservation concerns with needs of federal undertakings through consultation among the agency official and other parties with an interest in effects of the undertakings on historic properties, commencing at the early stages of planning. The goal of consultation is to identify historic properties potentially affected by the undertakings, assess effects of those undertakings, and seek ways

to avoid, minimize, or mitigate adverse effects on historic properties. The Programmatic Agreement on Protection of Historic Properties during Emergency Response under the NCP can be accessed at [Federal Preservation Legislation and Executive Orders, Advisory Council on Historic Preservation](#), and contact information regarding SHPOs is available at [Contact a State Historic Preservation Office - Historic Preservation Tax Incentives \(U.S. National Park Service\)](#).

## VI. ROLES OF RESPONSIBLE PARTIES

Under the CWA, an RP is required to immediately report to the NRC any discharge of oil producing a sheen on navigable water, adjoining shorelines, or the contiguous zone, as well as any release of a hazardous substance exceeding a reportable quantity as set forth in 40 CFR § 302.4. The RP may also be required to report these releases under various state and local statutes. OPA 90 § 1002 specifies RP responsibility for removal costs and damages. The RP is expected to cooperate with local public safety agencies during the emergency response phase of an incident, and to conduct any necessary response actions for which the RP's personnel are trained and equipped. RP response actions may include turning off valves, plugging or containing leaking containers, evacuating employees, and firefighting by industrial fire brigades. All these activities typically proceed under direction of an IC established by a local public safety agency.

The RP is also required to maintain authorized and qualified individuals available 24 hours a day to respond to a spill/discharge. The RP must also have sufficient funds available to cover the cost of pollution response to the limit of liability for a vessel or facility. Evolving priorities of an incident often include off-site and environmental concerns. The RP has the lead role in responding to these concerns, under oversight of state or federal agencies. The RP is also liable for restoring or replacing natural resources that may have been injured or lost due to the spill, and should coordinate with the natural resource trustees (via NRDA Liaison) as part of the NRDA process. The RP will be placed at the command level of the response organization to represent the RP's interests and to help coordinate assets and response actions. The RP should conduct inquiries into the cause of an incident. This often occurs with participation or oversight of state or federal agencies such as OSHA and DOT.

While the RP has primary responsibility for cleanup of a discharge or release, response operations and removal activities shall accord with the NCP and the RP's applicable response plan. If necessary, EPA or USCG may direct the RP's response activities. The FOSC also may "federalize" a response if it becomes evident that: (1) an adequate response is beyond the capability of the RP, or (2) the RP indicates an unwillingness to accept responsibility, or (3) the RP's identity is unknown. A UC structure that incorporates command personnel of the RP, local responders, and state and federal responders may be established to address concurrent public safety and environmental concerns.

## VII. NOTIFICATION

Discovery of a spill and subsequent notifications procedures may follow a number of pathways. RPs, private citizens, or the news media may notify local, state, or federal agencies by calling 911, the affected state's spill line, EPA spill line, or NRC. Depending on the severity of a spill or discharge, notification may not only be required by statute, but may be essential to protect human health and the environment. In some instances, notification by and of various agencies may occur as a matter of courtesy. The following sections describe notification procedures for those responsible for responding to oil or hazardous substance releases within the QCSA.

### A. Notification Protocol

Prompt notification to all appropriate agencies is critical for an effective and coordinated response. The organization first aware of a release is responsible for notifying other appropriate and potentially affected agencies. All initial notifications should occur by voice telephone, not by facsimile copy or electronic mail. Each agency is to consider itself the first notified unless it has been notified according to protocol. When an agency is notified by another responding agency/organization, it must ascertain whether other agencies it is responsible for notifying have been contacted, and then notify those agencies that have not been contacted. Each participating agency in the QCSA has indicated its intention to notify other jurisdictions based on the following three criteria:

1. The release could impact the agency being notified in some manner.
2. Assistance might be requested from the agency being alerted.
3. Other agencies that might not be affected or requested to provide assistance will be notified out of courtesy if those agencies are likely to receive inquiries about the incident from other sources such as citizens, private companies, or the news media.

### B. Quad Cities Subarea Notifications and Emergency Contacts Lists

Considering the number of agencies participating in the QCSA and potential response factors (e.g., wind speed/direction, toxicity of materials, presence/absence of humans, etc.), notification responsibilities of an organization will differ for various incidents. When an organization receives notification of a spill, it is expected to meet its statutory notification responsibilities before commencing notifications set forth in the above-stated protocol.

The 24-hour response numbers listed in the appendices represent central locations of each agency that are normally staffed 24 hours daily, 7 days a week. The numbers provided are those that outside parties would use to reach central dispatch. Assumedly, local residents would dial 911 during an emergency. Comprehensive notification lists organized by jurisdiction and function are included in Appendices G through K of this plan. Administrative numbers, email addresses, and other pertinent contact information are also included.

## C. Notification of Natural Resource Trustees

FOSCs are responsible for notifying the appropriate natural resource trustee(s) if the release affects or threatens to affect environmentally sensitive areas, migratory waterfowl, or state- or federally-listed threatened or endangered species. SOSCs will notify the DOI's RRT representative and USFWS, and the other federal and tribal trustees if their lands and resources have been or may be affected. Natural Resource Trustee contact information is in Appendix E.

## D. QCSAP Notifications

The Notification Flowchart shown on Appendix C describes the typical notifications during an incident in the QCSA. Contact information regarding various agencies or other entities with roles or interest in the subarea is included in Appendices D through H.

## E. Interstate Notification Protocol for Spills to the UMR

This river-specific protocol is in place to speed and enhance communication among the agencies involved in response on the UMR. It does not replace or override other existing protocols or notification requirements (e.g., notification of the NRC per the NCP), but rather augments these in light of the need for rapid, targeted, inter-jurisdictional coordination on the UMR. It also establishes a procedure for continued communication over the duration of an incident. All UMR spill response MOA signatories have agreed to utilize this notification protocol as part of their response to spills on the UMR.

### 1. Applicability

**This spill notification protocol applies to all state and federal agencies which have signed the implementing MOA.**

- A. Each state will be represented by only one contact or coordinating agency** who will represent and assume the "state" role for purposes of this protocol. It is assumed that this agency will be one which is responsible for environmental emergency response to a spill on the UMR. The coordinating agencies are listed in the spill notification roster.
- B. Each federal agency will be represented by only one contact point per federal region** for purposes of receiving notifications and updates. The contact points are listed in the spill notification roster.

### 2. Initial Notification

The state which first becomes aware of a spill should confirm that notification to the NRC, via call or online form, has been completed and initiate the UMR notification protocol. Under the UMR protocol, when a spill to the Upper Mississippi River occurs, **it is the responsibility of the first-aware state to notify other potentially affected states and appropriate federal response and natural resource agencies.** A state is to consider itself as first-aware if it has not previously been notified of the spill according to this protocol. Should a federal agency become first-aware of a spill, it will notify the state where the spill occurred (if known) or the state being impacted. That state will then be responsible for notifications according to this protocol. The initial notification protocol is as follows:

**A. All spills are to be reported.**

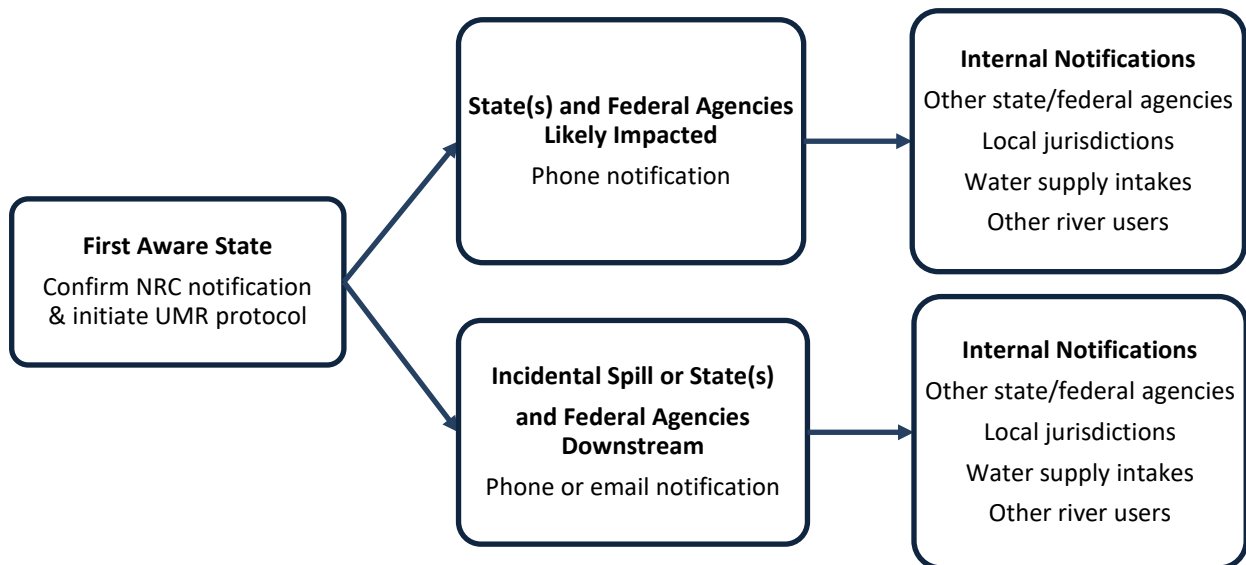
- 1) **Notification of spills likely to impact adjoining states is to be made by voice immediately.** The notification is made to the coordinating agency via the 24-hour number listed in the notification roster in this manual.
- 2) **Notification of incidental spills or spills that are far upstream of the notification recipient should be made during the first available working hours by voice or email** utilizing the contact information provided in the notification roster in this manual.

The first-aware state should use its best judgment as to what is an incidental spill. Some factors that may affect this decision are: (1) the location of the spill relative to water intakes, sensitive/critical fish and wildlife habitat, and major cities, and/or (2) the type and amount of material involved. In addition, news interest/coverage may make an otherwise environmentally insignificant spill into one of which other states and federal agencies should be made aware. If there is any doubt as to the significance of the spill, notification should be made.

**B. Each state is responsible for its own intrastate notifications,** such as those to other agencies within state government, local jurisdictions, and water supply intakes.

**C. When a spill originates within a state, that state will be the designated coordinating state** unless another state agrees to take over that responsibility (perhaps because of the greater involvement by the second state in the spill response). When the spill occurs in or affects the UMR at a boundary between two states, these states will decide during initial notification as to which state will be the designated coordinating state.

**FIGURE VII-1: UMR SPILL NOTIFICATION PROTOCOL**



### 3. Updates

Informal daily updates will be made to adjacent and downstream states by the designated coordinating state if the response is state-lead or by the FOSC if the response is federally-led. An FOSC may negotiate with a state to provide daily updates if the FOSC maintains close communications and provides the necessary information to that designated coordinating state.

- A. It is suggested that updates be emailed daily at a regular time which will meet agency management and public information needs, although urgent information should be sent immediately.
- B. A state or federal agency which responds in any way to a spill is to update the designated coordinating state or FOSC on its activity and findings daily. The reports should contain a summary of all activity by that state/agency since its last report, including lab analyses and maps if appropriate. The reports should also list what future actions that the state or agency plans to undertake.
- C. When the designated coordinating state or FOSC determines that daily updates are no longer necessary, this should be communicated via a final update. It should be labeled prominently as “FINAL” and state why the updates are being discontinued.

### 4. UMR Spill Notification Roster

This roster is to be used for notification and status report purposes. The list contains primary contacts, which include the five UMR basin states, EPA, USACE, USCG, and USFWS. The primary contacts are those agencies that should receive first notice of a spill to the river. Additional key contacts, including downstream states and numerous federal agencies and offices are also included. Note that other river contact information can be found in the UMR Resource Manual.

The call roster includes a business hour number for the primary response/coordinating agency, a 24-hour number for the agency that accepts the initial spill reports, and an email contact where available. The telephone number for the primary coordinating agency is used for interstate or interagency coordination during business hours. The 24-hour number is used for initial spill reporting for spills which may affect interstate waters. The email contact is used for other notifications or updates to state or federal agencies. Note that the emails are for individual UMR Spills Group members.

**TABLE 2: PRIMARY CONTACTS – UMR SPILL NOTIFICATION**

Illinois		
<b>Coordinating Agency</b>	Illinois Environmental Protection Agency Office of Emergency Response	217-782-3637
<b>24-hour</b>	Illinois Emergency Management Agency	217-782-7860
<b>Email</b>	Tony Falconio	<a href="mailto:tony.falconio@illinois.gov">tony.falconio@illinois.gov</a> <a href="mailto:epa.oer@illinois.gov">epa.oer@illinois.gov</a>
Iowa		
<b>Coordinating Agency</b>	Iowa Department of Natural Resources	515-725-8694
<b>24-hour</b>	Iowa Department of Natural Resources	515-725-8694
<b>Email</b>	Kurt Levetzow	<a href="mailto:kurt.levetzow@dnr.iowa.gov">kurt.levetzow@dnr.iowa.gov</a>

**TABLE 2: PRIMARY CONTACTS – UMR SPILL NOTIFICATION**

<b>Minnesota</b>		
<b>Coordinating Agency</b>	Minnesota Pollution Control Agency Emergency Response Team	651-757-2161
<b>24-hour</b>	Minnesota Department of Public Safety	1-800-422-0798 or 651-649-5451
<b>Email</b>	Dorene Fier-Tucker	<a href="mailto:dorene.fier-tucker@state.mn.us">dorene.fier-tucker@state.mn.us</a>
<b>Missouri</b>		
<b>Coordinating Agency</b>	Missouri Department of Natural Resources	573-526-3315
<b>24-hour</b>	Missouri Department of Natural Resources	573-634-2436
<b>Email</b>	Rick Gann	<a href="mailto:rick.gann@dnr.mo.gov">rick.gann@dnr.mo.gov</a>
<b>Wisconsin</b>		
<b>Coordinating Agency</b>	Wisconsin Department of Natural Resources	800-943-0003
<b>24-hour</b>	Wisconsin Emergency Management	800-943-0003
<b>Email</b>	Jayson Schrank	<a href="mailto:jayson.schrank@wisconsin.gov">jayson.schrank@wisconsin.gov</a>
<b>National Response Center - Washington, D.C.</b>		
<b>Business Hours</b>	National Response Center	1-800-424-8802
<b>24-hour</b>	National Response Center	1-800-424-8802
<b>Online Form</b>	National Response Center	<a href="http://www.nrc.uscg.mil">www.nrc.uscg.mil</a>
<b>U.S. Department of the Army, Army Corps of Engineers - Vicksburg, MS</b>		
<b>Business Hours</b>	Mississippi Valley Division, Operations Chief	601-634-5866, <a href="mailto:patrick.a.chambers@usace.army.mil">patrick.a.chambers@usace.army.mil</a>
<b>24-hour</b>	Mississippi Valley Division, Regulatory Office	601-634-5821
	See Appendix D for USACE lock and dam contacts.	
<b>U.S. Environmental Protection Agency - Region 5, Chicago</b>		
<b>Coordinating Office</b>	Emergency and Enforcement Response Branch	312-353-2318
<b>24-hour</b>	Emergency and Enforcement Response Branch	312-353-2318
<b>U.S. Environmental Protection Agency - Region 7, Kansas City</b>		
<b>Coordinating Office</b>	Emergency Response Program	913-281-0991
<b>24-hour</b>	Emergency Response Program	913-281-0991
<b>U.S. Coast Guard – Sector UMR - St. Louis, MO</b>		
<b>Business Hours</b>	Sector UMR	314-269-2500
<b>24-hour</b>	Sector UMR	1-866-360-3386 or 314-269-2332
<b>USFWS - Twin Cities Regional Office</b>		
<b>Coordinating Office / 24-hour</b>	DOI Regional Environmental Officer for Region V (includes IL, MN, and WI) DOI Regional Environmental Officer for Region VII (includes IA and MO)	215-266-5155  303-478-3373

**Note:** USFWS contact numbers should be used only to report, or consult on, a spill that has already been reported to the NRC hotline (800-424-8802). Discussions with USFWS personnel do not constitute Natural Resource Trustee notification under OPA, CERCLA, or the NCP.



**TABLE 3: ADDITIONAL CONTACTS – UMR SPILL NOTIFICATION**

<b>National Pollution Funds Center – Washington, D.C.</b>		
<b>Business Hours</b>	National Pollution Funds Center	703-872-6000
<b>24-hour</b>	Command Duty Officer (CDO)	202-494-9118
	Team 1 (includes IA and MO)	708-872-6067
	Team 4 (includes IL, MN, and WI)	703-872-6088
<b>Arkansas</b>		
<b>Business Hours</b>	Department of Emergency Management	1-800-322-4012
<b>24-hour</b>	Department of Emergency Management	1-800-322-4012
<b>Kentucky</b>		
<b>Business Hours</b>	Department for Environmental Protection	502-564-2380
<b>24-hour</b>	Department for Environmental Protection	1-800-928-2380
<b>Tennessee</b>		
<b>Business Hours</b>	Emergency Management Agency	1-800-258-3300
<b>24-hour</b>	Emergency Management Agency	1-800-258-3300
<b>U.S. Coast Guard - Eighth District, New Orleans</b>		
<b>Coordinating Office</b>	Eighth District Command Center	504-589-6225
<b>24-hour</b>	Eighth District Command Center	504-589-6225
<b>U.S. Coast Guard - St. Paul, MN</b>		
<b>Business Hours</b>	Marine Safety Detachment	612-725-1871
<b>24-hour</b>	Sector UMR	1-866-360-3386 or 314-269-2332
<b>U.S. Coast Guard - Quad Cities</b>		
<b>Business Hours</b>	Marine Safety Detachment	309-782-0627
<b>24-hour</b>	Sector UMR	1-866-360-3386 or 314-269-2332
<b>U.S. Coast Guard - Memphis, TN</b>		
<b>Business Hours</b>	Sector Lower Mississippi River	901-544-3912
<b>24-hour</b>	Sector Lower Mississippi River	901-544-3912
<b>U.S. Coast Guard - Paducah, KY</b>		
<b>Business Hours</b>	Marine Safety Unit	270-442-1621
<b>24-hour</b>	Sector Ohio Valley	1-800-253-7465
<b>U.S. Coast Guard - Louisville, KY</b>		
<b>Business Hours</b>	Sector Ohio Valley	502-779-5300
<b>24-hour</b>	Sector Ohio Valley	1-800-253-7465
<b>U.S. Coast Guard, Atlantic Strike Team - Fort Dix, NJ</b>		
<b>Business Hours</b>	Atlantic Strike Team	609-724-0008

**TABLE 3: ADDITIONAL CONTACTS – UMR SPILL NOTIFICATION**

<b>24-hour</b>	Atlantic Strike Team	609-556-9376
<b>U.S. Coast Guard, National Strike Force - Elizabeth City, NC</b>		
<b>Business Hours</b>	National Strike Force	252-331-4400
<b>24-hour</b>	Command Duty Officer	252-267-3458
<b>U.S. Department of Agriculture – Animal and Plant Health Inspection Service - Fort Collins, CO</b>		
<b>Business Hours</b>	Wildlife Services	970-494-7443 or 877-303-6363
<b>24-hour</b>	Wildlife Services	970-266-6363 or 877-303-6363
<b>U.S. Department of the Interior - Philadelphia, PA (Regional Environmental Officer for DOI Region 3)</b>		
<b>Business Hours</b>	Office of Environmental Policy & Compliance	215-597-5378
<b>24-hour</b>	Office of Environmental Policy & Compliance	215-266-5155
<b>U.S. Department of the Interior - Denver, CO (Regional Environmental Officer for DOI Region 4)</b>		
<b>Business Hours</b>	Office of Environmental Policy & Compliance	303-445-2500
<b>24-hour</b>	Office of Environmental Policy & Compliance	303-478-3373
	See Appendix D and E for field-level contacts.	
<b>U.S. Department of Commerce, National Oceanic and Atmospheric Administration - Cleveland, OH</b>		
<b>Business Hours</b>	Scientific Support Coordinator	216-522-7760
<b>24-hour</b>	NOAA Hazmat Duty Officer (Seattle)	206-526-4911
<b>U.S. Department of Commerce, National Weather Service</b>		
<b>Business Hours</b>	Regional Warning & Prep Meteorologist, Kansas City	816-540-6021
<b>24-hour (Unlisted Numbers)</b>	<b>National Weather Service Forecast Offices</b>	
	Twin Cities, Minnesota	952-361-6670
	La Crosse, Wisconsin	608-784-7294
	Davenport, Iowa	563-386-3976
	Des Moines, Iowa	515-270-2614
	Chicago, Illinois	815-834-1435
	St. Charles, Missouri	636-441-8467
<b>24-hour</b>	River Forecast Center (Minnesota)	952-361-6650
<b>U.S. Environmental Protection Agency - Region 4, Atlanta, GA</b>		
<b>Business Hours</b>	Emergency Response	404-562-8700
<b>24-hour</b>	Emergency Response	404-562-8700
<b>U.S. Environmental Protection Agency - Region 6, Dallas, TX</b>		
<b>Business Hours</b>	Emergency Response	214-665-2760
<b>24-hour</b>	Emergency Response	866-372-7745

## VIII. QUAD CITIES RESPONSE PROTOCOL

### A. Incident Command and Jurisdiction

The first responding local agency will establish an initial command post and an IC in accordance with NIMS/ICS. If jurisdiction is unclear, the responding agencies will confer to determine which agency has jurisdiction. Once jurisdiction has been determined, the local agency having jurisdiction will either assume command or request establishment of a UC at the local level.

If jurisdiction is not determined, the initial responding local agency will either maintain command or request establishment of a UC. When the SOSC and the FOSC arrive at the site, they will confer with the IC. By mutual agreement, they will determine whether the SOSC and FOSC will integrate into the ICS, whether the SOSC or FOSC will take the lead, or whether they will jointly establish UC. The lead EPA region will be the region from which the lead local and state agencies originate. If the responding agencies cannot agree on the issue of command, the FOSC has preemptive authority under NCP.

### B. Contractor Oversight

If the RP is capable and willing to respond to the release, governmental officials will work with the RP to mitigate the spill while maintaining general oversight. If no potentially responsible party (PRP) is identifiable or the RP is unwilling or incapable of responding, the FOSC will pursue available options for using government funds to clean up the release. If a contractor responds to the spill, it will answer to the agency providing its funding unless all parties agree to supervision by another agency.

### C. Coordination

Generally, the responding agencies will function within their normal roles, using established lines of authority, expertise, and resources while working as a team to provide the most efficient response possible. Each local, state, and federal lead agency will be responsible for making secondary notifications and for coordinating assistance from its support agencies. The local IC, along with the SOSC and FOSC, will collaborate to make major decisions, with the RP's representative(s) included as appropriate.

### D. Public Information

The IC may appoint a public information officer (PIO) responsible for developing and releasing information to the media and the public. The PIO will advise and represent the IC on all public information matters, gather incident data, obtain media information useful to operations and media planning, develop news releases or information for release to the public, and establish and operate a media center (when designated by the IC). PIO functions must be coordinated and integrated across jurisdictional, governmental, and functional areas. The PIO will coordinate with the IC to establish a timeline for providing information updates to the media.

### E. Termination

When the IC terminates an incident, a notice of termination will be sent to all responding agencies. After the termination and to the extent feasible, the IC, SOSC, and FOSC will work together to coordinate the following: (1) issuance of their respective reports, (2) efforts to recover costs, and (3) a critique of the incident.

## IX. INCIDENT COMMAND

The senior on-scene official of the response organization first arriving at an oil or hazmat release shall establish an ICS in accordance with NIMS procedures. If the incident is of sufficient magnitude to require involvement of multiple agencies and/or multiple levels of government, command operations should transition toward a UC structure. Additional information on NIMS and its applications is available at <http://www.fema.gov/national-incident-management-system>.

### A. NIMS Protocol Addressing State and Federal Responders

NIMS/ICS shall be used as an “all-hazards” model for managing and responding to incidents. The most qualified on-scene authority shall assume the role of the IC. If the incident expands or requires implementation of a UC structure, each organization to be included in UC should meet one or more of the following criteria:

- Organization maintains jurisdictional authority within the impacted area.
- Incident impacts the organization’s area of responsibility (AOR).
- Organization has a specific responsibility to act/respond.
- Organization possesses resources to be deployed.

The ICS should be based on organization, terminology, and procedures recommended by NIMS, and should be applied in a broad sense to include all hazard control and mitigation response organizations including the RP, private responders, and local, state, and federal agencies. All such entities participating in a response are required by federal law to implement ICS and integrate it with the overall ICS (29 CFR 1910.120 or 40 CFR 311).

The ICS established will include a designated IC with expertise, capability, determination, and authority, selected from a local unit of government or from a county, state, or federal agency. This protocol recognizes that typically, but not necessarily, the IC will change as the incident progresses from primarily a public safety problem, with the local fire chief as IC, to an environmental incident, with a state or federal person as the IC. The following procedures specify a determinate yet flexible means of establishing the role of federal and state responders in an ICS.

To document the incident planning process, jurisdictions should develop an Incident Action Plan based on ICS forms. The IC can use locally developed ICS forms or those made available by other agencies such as USCG. A list of the modified ICS forms can be downloaded at [dcms.uscg.mil ICS forms](https://dcms.uscg.mil/ICS-forms) or [response.epa.gov ICS forms](https://response.epa.gov/ICS-forms). The [USCG Incident Management Handbook](#) and [EPA Incident Management Handbook](#) have been developed to assist ICS implementation during incident response operations and planned events.

#### 1. Single Jurisdictional Area Affected

When the incident involves and affects only a single local geographical jurisdiction, the organizational structure of the ICS will be determined by the established local contingency plan. This may involve single or multiple agency involvement. In all situations, one person shall act as either an IC in sole charge or, when functioning as an Operations Chief, will implement the action plan of an IC/UC.

In such instances, one of the following types of actions at the site by responding state and federal officials who might otherwise be considered senior competent emergency response officials will be appropriate:

- Identify themselves to the IC and integrate themselves into the established ICS per the IC's direction, usually as a technical specialist to an operations group supervisor or as an operations group supervisor.
- Join an existing UC or request the IC to establish UC.
- Assume the IC role when required by federal or state law, or when an existing IC agrees to such a transition, or when no ICS has been established. The ICS transfer of command or initial assumption of command protocols shall be implemented.

## 2. Multiple Jurisdictional Areas Affected

When the incident involves and affects multiple local geographical jurisdictions or areas not covered by local emergency response organizations, the state or federal competent senior official at the site shall take one of the following actions:

- Preferably join an existing IC/UC.
- Establish a UC for an encompassing ICS if none exists.
- Assume IC and establish an ICS incorporating existing local efforts as operations section branches or otherwise as appropriate.

## 3. Local, State, Federal Interaction

When not specifically prescribed, a UC consisting of local, state, and federal senior competent emergency response officials at the site shall be preferred over integration of several levels of government into an ICS. Where state law specifies incident command assignment, it shall take precedence over this protocol with respect to those state and local organizations to which it applies. Federal jurisdiction specified in CERCLA, OPA, or RICP shall take precedence over this protocol.

## 4. Seniority

Seniority, as discussed in 29 CFR 1910.120 (q)(3)(I), is ranked according to competency and breadth of responsibility for purposes of this plan. Competency will be determined by whether an individual meets the requirements of 29 CFR 1910.120 (q)(6)(v). All officials meeting the competency criteria are senior to those who do not, unless specifically charged with overriding authority applicable to the specific incident situation by state or federal law.

Breadth of responsibility generally will be considered to increase from local- to state- to federal-level officials. However, this protocol encourages establishment of the ICS at the most local level practicable to assure earliest implementation of a unified response strategy.

## 5. Post-Emergency Operations

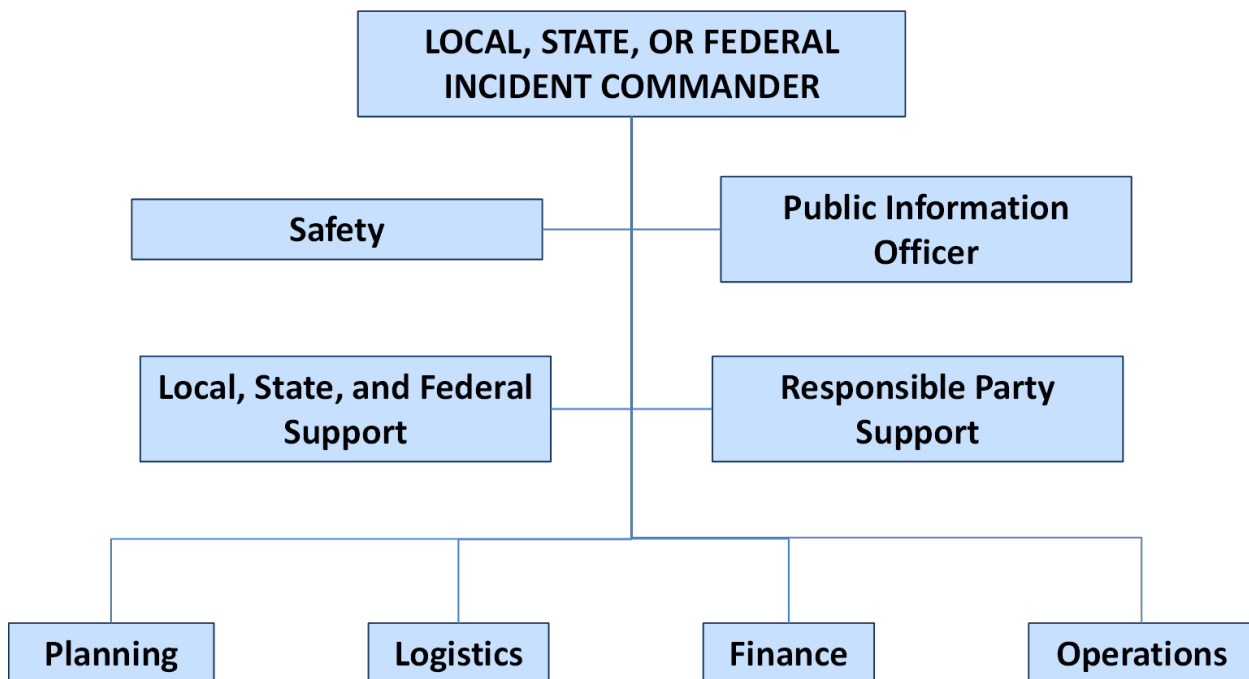
This protocol is intended to apply only during the emergency phase of a response to which 29 CFR 1910.120 (q) applies. However, use of an ICS throughout a response and cleanup is encouraged.

## B. Transition of Command

### 1. UC Structure

Because oil and hazmat incidents involve many players and changes over time, it is important to establish leadership, responsibilities, and roles during a dynamic response action. Some responders serve as support players, while others have command roles. Rarely is one person or organization solely responsible for all aspects of a response to an incident involving oil or hazmat. An organizational chart reflecting such a circumstance is shown on Figure IX-2.

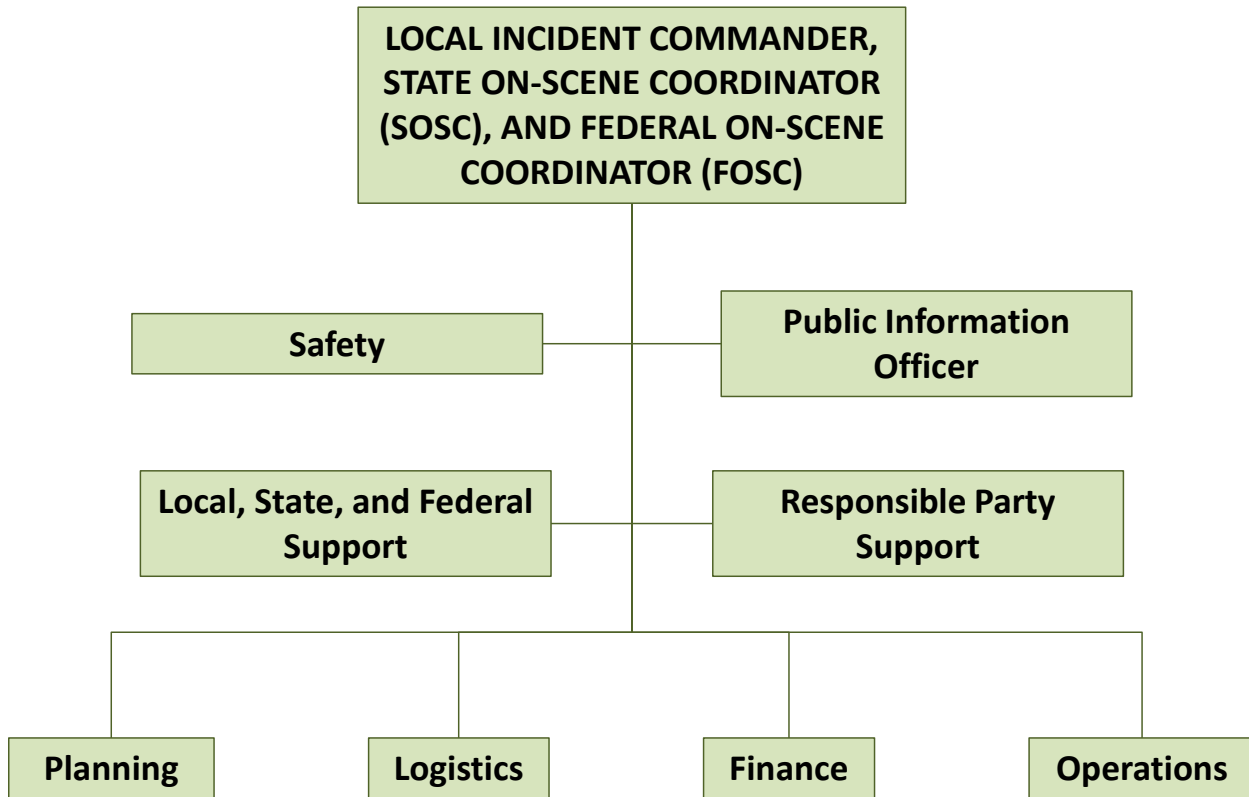
**FIGURE IX-2: ICS WITH A SINGLE INCIDENT COMMANDER**



A very large incident involving oil, or hazardous substances might include responders from many different organizations, each responding according to his/her responsibilities and authorities. If the incident affects a wide geographic area, or if several functions must be performed by agencies with distinctly different capabilities, a transition may occur from a single IC to a UC. The local IC, SOS, or FOSC may recommend formation of a UC structure.

Upon agreement, the qualified individuals assume command roles. UC is not command by committee, but rather is a mechanism for coordination, cooperation, and communication under which each party is allowed to operate within its appropriate sphere of command. Each organization shares the same command responsibilities within an ICS. An example of a UC organizational structure is shown on Figure IX-3.

**FIGURE IX-3: ICS WITH A UNIFIED COMMAND**



When a UC is implemented, the local IC and OSC(s) meet and take the following measures:

- Agree to act in concert, or at least coordinate efforts.
- Agree on objectives, priorities, and strategies.
- Recognize each other’s authorities, capabilities, limitations, responsibilities, and roles.
- Establish lines and methods of communication.

Any single organization’s command influence typically grows or shrinks as the incident continues, and as its area of responsibility and expertise come into or go out of play. The UC group may appoint a single person to carry out command decisions. The rest of the response functions (planning, operations, logistics, and finance) usually are also “unified” by commingling responders of the various organizations.

The UC and response generally continue until the response is terminated or the roles of all but one level of government have so diminished that the primary level of government provides a single IC. Transition to a single IC occurs via mutual agreement of members of the UC. The agency that provides the IC is then responsible for implementing procedures for termination of the response.

## C. Federal Preemption

The NCP gives an FOSC authority to direct all response efforts at the scene of a discharge or release. Typically, an FOSC will support actions of local and state governments. Even an FOSC who is part of a UC might focus federal efforts on a specific part of the response.

Under any the following circumstances, however, the FOSC might determine that he or she must use preemptive authority to direct all efforts at the scene:

- A discharge of oil is classified as “major” (over 10,000 gallons).
- A release of a hazardous substance is classified as “major” (a release that poses a substantial threat to public health or welfare of the United States or the environment or elicits significant public concern).
- The discharge or release is a “spill of national significance” (a spill with ramifications so complex because of its severity, size, location, actual or potential impact on the public health or welfare or the environment, or necessary response effort, that it requires extraordinary coordination of federal, state, local, and RP resources to contain and clean up the discharge).
- Because of the RP’s inability or unwillingness to respond, the FOSC decides to pay for the response with funds from CERCLA or OPA (“federalize” the response).
- Actions taken by the RP or local responders, or state responders are inappropriate or ill-advised.
- Lack of cooperation among the RP and local and state responders is impeding prompt and effective response.

An FOSC who decides to direct all response actions must notify the RP’s designated IC, the local government’s IC, and the SOSC of these intentions. These notifications ensure that all lead organizations are aware of the change of status. An FOSC who exercises this authority becomes the IC for the entire incident and must assure compliance with OSHA’s 1910.120 regulations regarding response to releases.



## X. SITE SAFETY PLAN

### A. Integration of Site Safety Plans

During a major incident involving hazardous substances, several hazmat teams could participate in the response. These teams should consist of personnel trained to at least the technician level and should operate in complete compliance with OSHA's 1910.120 regulations. One of these requirements is a site safety plan (SSP).

Hazmat teams possibly present during a response include teams from municipal FDs, contractors for RPs, state or federal agencies, a USCG Strike Team, military teams, and industrial mutual aid teams. Because each team normally develops its own SSP, conflict or confusion may ensue as the various teams initiate field operations. To ensure safety of responders and efficiency of response, procedures for coordinating safety plans should be implemented as follows:

If a site has a single IC, that commander will appoint a site safety officer (SSO) who will coordinate with the safety officers of all responding teams. The SSO will ensure compatibility of the various SSPs with the overall SSP. If UC is in place, the incident managers will appoint the SSO. Any safety officer who, after working with the SSO, disagrees with any portion of the SSP should communicate his/her concerns to his/her organization's senior on-site official. That official should discuss those concerns with the IC or UC. The IC or UC staff should then bring the matter to the attention of the SSO for resolution. The IC, who is ultimately responsible for the safety of everyone on site, provides final approval of the SSP.

### B. Requirements for SSPs

SSPs are required of private employers of hazardous waste operations under 29 CFR 1910.120, and of governmental employers under 40 CFR 311. Both regulatory documents specify 11 categories that must be included in an SSP. The required categories of an SSP are as follows:

1. **Key Personnel and Hazards Communication:** Names of key personnel, such as: Project Manager, Field Operations Leader, Site Supervisor, and Site Health and Safety Officer. Identify communication procedures and provide for pre-activity briefings. (29 CFR 1910.120[b][2])
2. **Task Risk or Hazard Analysis:** Hazards or risks associated with each task to be performed, including identification of chemical contaminants; affected media; concentrations, if known; and potential routes of exposures. (29 CFR 1910.120[b][4])
3. **Employee Training Assignments:** Training required to enter the site (e.g., initial and annual health and safety training, first aid/cardiopulmonary resuscitation (CPR) training, emergency response training). (29 CFR 1910.120[e])
4. **Medical Surveillance Requirements:** Baseline monitoring and site-specific medical monitoring required for all personnel entering the scene. (29 CFR 1910.120[f])
5. **Personal Protective Equipment (PPE):** PPE to be used for each task. (29 CFR 1910.120[g])
6. **Air and Personnel Monitoring:** Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and equipment to be used, including methods of maintenance and calibration for equipment and instruments. (29 CFR 1910.120[h])

7. **Site Control Measures:** Procedures to be used to minimize worker exposure to hazardous substances. These would include a site map, work zone definition, buddy system establishment, site communications, emergency alarm procedures, standard operating procedures for safe execution of tasks, and identification of nearest medical assistance. (29 CFR 1910.120[d])
8. **Spill Containment Procedures:** Procedures to contain and isolate entire volume of any hazardous substance spilled during site activities. (29 CFR 1910.120[j])
9. **Decontamination Procedures:** Procedures for decontaminating workers and equipment potentially exposed to hazmat. This section should also include methods to minimize contact with hazmat. (29 CFR 1910.120[k])
10. **Emergency Response Plan:** How anticipated emergencies will be handled and how risks associated with an emergency will be minimized. This plan must be developed prior to commencement of hazardous waste activities. (29 CFR 1910.120[l])
11. **Confined Space Entry Procedures:** If necessary, procedures for entering confined spaces. (29 CFR 1910.120[b][9]).

## XI. ACCESS TO OIL SPILL LIABILITY TRUST FUND AND CERCLA REIMBURSEMENT

Current information on various aspects of the OSLTF is available through [USCG's National Pollution Funds Center home page](#) and through the [OSLTF home page](#).

### A. OSLTF Funding Procedures

Local, state, tribal, or federal agencies may obtain funding for removal costs **through, and with the prior approval of, the FOSC**—or by submitting a claim to the NPFC. Funding will accord with EPA's "Guidance for Use of The Oil Spill Liability Trust Fund," (OSWER Dir. 9360.8-11), February 1997; and EPA's "Guidance for Use of Coast Guard Basic Ordering Agreements for Emergency Oil Spill Response Support," February 10, 1997.

### B. OSLTF Claims

Section 1012(d) (1) of OPA 90 authorizes use of the fund for "payment of claims in accordance with Section 1013 for uncompensated removal costs determined by the President to be consistent with the NCP for uncompensated damages." State or local government agencies may submit claims for uncompensated removal costs, including salaries, equipment, and administrative costs directly related to a specific incident. The claimant may submit claims even if the RP is unknown. To submit a claim against the OSLTF, the state or local agency must:

- Submit a detailed description of the incident including what type of material was released or potentially released; what navigable water was impacted or potentially impacted; what response actions were taken to prevent, minimize, or mitigate the release; and whether those actions were consistent with the NCP.
- Include a detailed summary of monies spent during the response action and provide backup documentation. The removal costs must have been incurred as a result of the response actions taken to prevent, minimize, or mitigate effects of the incident.
- Submit the package to the USCG NPFC for approval. The NPFC will review the claim to determine whether the costs are reasonable and whether the actions taken were consistent with the NCP, which may include confirming that the response was an OPA 90 incident.

Additional information on claims can be found in the NPFC's Claimant Information Guide at [NPFC's Claimant Information Guide](#).

### C. State Access to the OSLTF

In cases not covered under a [Pollution Removal Funding Authorization \(PRFA\)](#) issued to the state by the FOSC, states may seek reimbursement of allowable removal costs through another mechanism. In accordance with regulations in Section 1012(d) (1) of OPA, the President, upon request of the state's governor or his/her designee, may obligate the OSLTF for payment in an amount not to exceed \$250,000 for removal costs consistent with the NCP that are required for immediate removal of a discharge or mitigation or prevention of a substantial threat of discharge of oil. Requests for access to the OSLTF under this provision must be made to the FOSC. The individual requesting access to the OSLTF must:

- Indicate that the request is a state access request under 33 CFR Part 133.
- Provide the name, title, department, and state.

- Describe the incident in sufficient detail to allow a determination of jurisdiction, including the date of the incident, type of product discharged, estimated quantity of discharge, the navigable water involved, and proposed removal actions for which the funds are being requested under Part 133.
- Indicate the amount of funds requested.

Further information is available through the USCG Technical Operating Procedures (TOP) for state access under Section 1012(d) (1) of OPA, which can be accessed at [NPFC TOP](#).

#### **D. CERCLA Local Governments Reimbursement Program**

Section 123 of CERCLA and Section 1002 (b)(2)(F) of OPA authorize EPA to reimburse local governments for some (and in rare cases, possibly all) expenses incurred during temporary emergency measures in response to hazardous substance threats or releases—if those measures were necessary to prevent or mitigate injury to human health or the environment.

This provision is meant to reduce significant financial burdens incurred by a city, county, municipality, parish, township, town, federally recognized Native American Tribe, or other local unit of government that engages in response activities required because of hazardous substance threats. Traditional local responsibilities, such as routine firefighting, are not eligible for reimbursement. States are not eligible for this program and may not request reimbursement on their own behalf or on behalf of a political subdivision within a given state (40 CFR Parts 310.20 and 310.30). The following criteria must be met before a request for reimbursement will be considered:

- Response actions were consistent with CERCLA, NCP, and EPCRA.
- The request contains assurances that the response does not supplant local funds normally provided for such activities.
- The applicant must have first attempted to recover expenses from all known PRPs and any other possible sources of reimbursement (state funds, insurance companies, etc.). Sixty days must be allowed for the RP to respond by making payment, expressing intent to pay, or demonstrating willingness to negotiate payment.
- The request must be received by EPA within 1 year of the date the response was completed.

CERCLA limits the reimbursement to \$25,000 per single response. If several agencies or departments are involved in a response, they must determine among themselves which agency will submit the request for reimbursement. Some allowable costs may include, but are not limited to, the following:

- Disposal of materials and supplies acquired and used specifically for the related response.
- Employee compensation for response work not provided in the applicant's operating budget.
- Rental or leasing of equipment.
- Replacement costs of equipment contaminated beyond reuse or repair.
- Decontamination of equipment.
- Special technical services needed for the response such as those provided by experts or specialists.
- Other special services such as utilities.
- Laboratory analysis costs related to the response.
- Costs associated with supplies, services, and equipment procured for a specific evaluation.

A review panel will evaluate each request and will rank the requests according to financial burden. Financial burden is based on the ratio of eligible response costs to the locality's per capita income adjusted for

population. If a request is not reimbursed during the review period for which it is submitted, EPA's reimbursement official has the discretion to hold the request open for 1 year for reconsideration.

An application package can be obtained by contacting the [Local Government Reimbursement \(LGR\) Program](#) Helpline at 1-800-431-9209. The application package contains detailed, line-by-line instructions for completing the application.

## XII. STATE DISPOSAL REGULATIONS

Table 4 below overviews material disposal requirements for Illinois and Iowa.

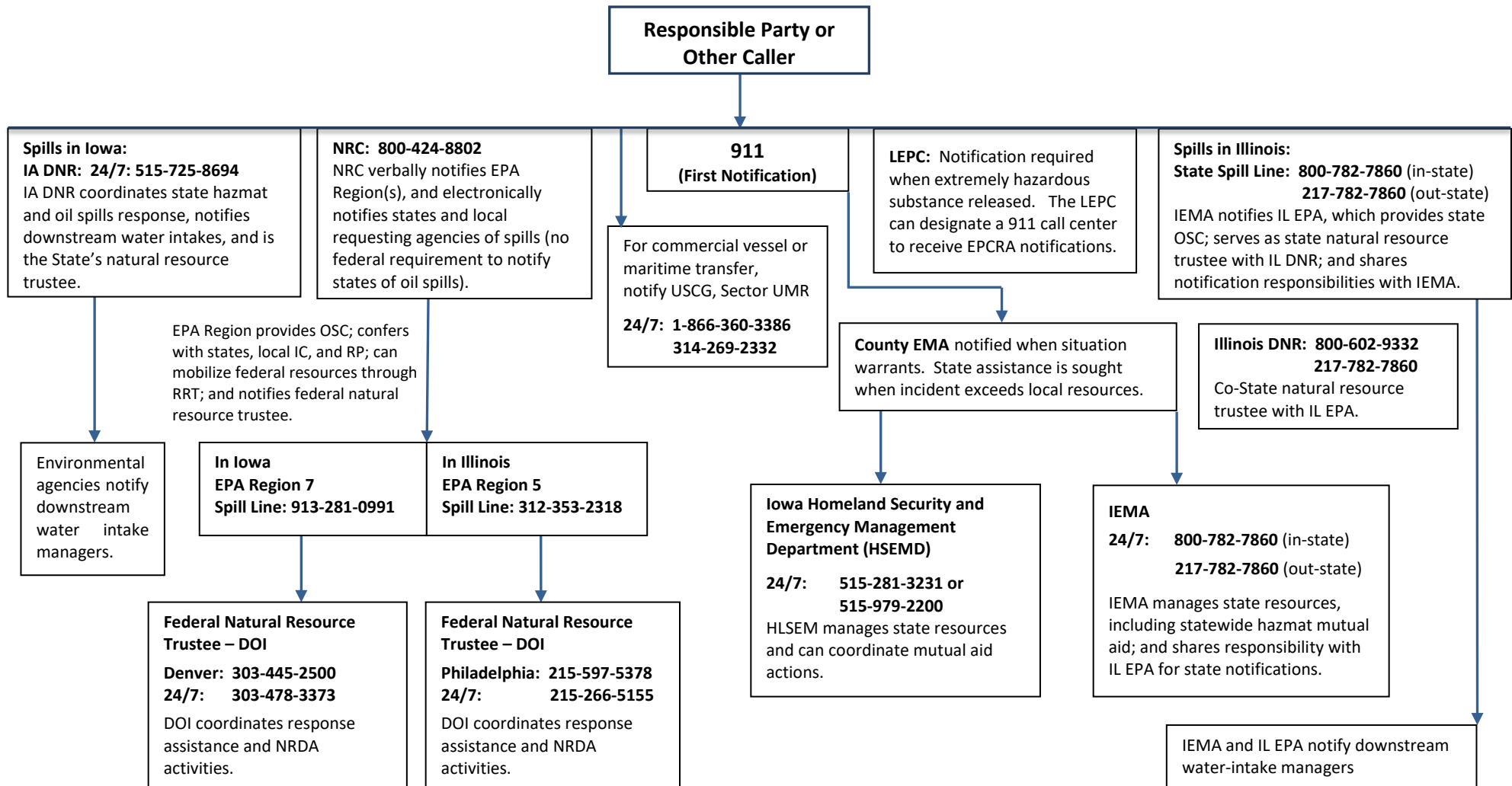
**TABLE 4: OVERVIEW OF STATE DISPOSAL REGULATIONS**

Material or Disposal Method	Illinois	Iowa
<b>Non-Hazardous Debris and Soil</b>	<p>Clean debris and soil must go to a permitted sanitary landfill.</p> <p>Debris and soil above cleanup objectives must go to special waste landfill (permits), manifesting and licensed waste hauler required.</p> <p>Permits expedited through IEPA Emergency Response.</p>	<p>Must go to permitted sanitary landfill.</p> <p>IA DNR prior approval is required before disposal.</p>
<b>RCRA Hazardous Debris and Soil</b>	<p>Illinois has 1 RCRA landfill, several incinerators, and other RCRA treatment facilities.</p> <p>Permits expedited through IEPA Emergency Response.</p>	<p>Iowa does not have an RCRA program; consult EPA Region 7.</p> <p>No RCRA disposal facilities in Iowa.</p>
<b>Open Burning</b>	<p>Allowed with IEPA permission for oil production spill residues when weather threatens environmental damage.</p> <p>Considerations are proximity to residences, visibility on roads, and atmospheric dispersion conditions.</p>	<p>Generally prohibited.</p> <p>Variance possible through IA DNR.</p>
<b>Emergency Response Contractors</b>	Available from IEPA.	Available from IA DNR.
<b>Petroleum-Contaminated Water</b>	NPDES permit required for all direct discharges, including storm sewers; local approval required for discharge to sanitary sewer.	Can discharge to storm or sanitary sewer if below allowable levels with approval from IA DNR and municipal officials.
<b>Land Farming</b>	Possible, but demonstration permit may be required; significant containment and monitoring required.	Allowed if IA DNR criteria are followed.
<b>Pesticides and Fertilizers</b>	Recovered liquids and solids may be applied to agricultural land at label application rates; permit needed from IEPA or Illinois Department of Agriculture.	Recovered liquids and solids may be applied to agricultural land at normal rates with IA DNR approval.
<b>Petroleum-Contaminated Soils</b>	Generic permits available at some landfills; (see debris and soil and land-farming discussions).	Excavated soil may be incinerated at an approved incinerator, land-applied at a permitted sanitary landfill, or land farmed on property with approval of the owner as long as IA DNR criteria are followed.

### **XIII. QUAD CITIES WORST-CASE DISCHARGE SCENARIOS**

This section removed from the public-access version of this plan.

APPENDIX A: QUAD CITIES SUBAREA SPILL NOTIFICATION FLOWCHART





## APPENDIX B: ACRONYMS List

§ Article

### A

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AC Area Committee  
 ACP Area Contingency Plan  
 AOR Area of responsibility

### C

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CAA Clean Air Act  
 CAER Community Awareness Emergency Response  
 CBRN Chemical, biological, radiological, and nuclear  
 CDC Centers for Disease Control and Prevention  
 CERCLA Comprehensive Environmental Response, Compensation, and Liability Act  
 CFR *Code of Federal Regulations*  
 CMAT Consequence Management Advisory Team  
 COTP Captain of the Port  
 CPR Cardiopulmonary resuscitation  
 CWA Clean Water Act (Federal Water Pollution Control Act)

### D

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DHS U.S. Department of Homeland Security  
 DMS Dynamic message sign  
 DOD U.S. Department of Defense  
 DOE U.S. Department of Energy  
 DOI U.S. Department of the Interior  
 DOT Department of Transportation  
 DRAT District Response Advisory Team  
 DRG District Response Group

### E

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EAS Emergency Alert System  
 EMA Emergency Management Agency  
 EMS Emergency Medical Services  
 EOC Emergency Operations Center  
 EPA U.S. Environmental Protection Agency  
 EPCRA Emergency Planning and Community Right To Know Act (SARA Title III)  
 ERRS Emergency and Rapid Response Services  
 ERT Environmental Response Team  
 ERU Emergency Response Unit  
 ESA Endangered Species Act  
 ESF Emergency Support Function

**F**

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FD	Fire Department
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan

**H**

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Hazmat	Hazardous material
HAZWOPER	Hazardous Waste Operations and Emergency Response
HHS	U.S. Department of Health and Human Services
HLSEM	Iowa Homeland Security and Emergency Management
HSEMD	Iowa Homeland Security and Emergency Management Department
HSPD	Homeland Security Presidential Directive

**I**

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IC	Incident Command or Incident Commander
ICP	Integrated Contingency Plan
ICS	Incident Command System
IDALS	Iowa Department of Agriculture and Land Stewardship
IA DNR	Iowa Department of Natural Resources
ICSA	Illinois Chemical Safety Act
IDOT	Iowa Department of Transportation
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
IL DNR	Illinois Department of Natural Resources

**L**

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LDB	Left descending bank
LEOP	Local Emergency Operations Plan
LEPC	Local Emergency Planning Committee
LERP	Local Emergency Response Plan
LGR	Local Government Reimbursement

**M**

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MABAS	Mutual Aid Box Alarm System
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSD	Marine Safety Detachment

**N**

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NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Funds Center
NPS	National Park Service

NRC	National Response Center
NRDA	Natural Resource Damage Assessment
NRF	National Response Framework
NRP	National Response Plan
NRS	National Response System
NRT	National Response Team
NSF	National Strike Force
NSFCC	National Strike Force Coordination Center
NWS	National Weather Service

**O**

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ORP	Office of Radiation Programs
OPA 90	Oil Pollution Act of 1990
OPA	Oil Pollution Act
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSLTF	Oil Spill Liability Trust Fund
OSWER	Office of Solid Waste and Emergency Response
OSRO	Oil Spill Removal Organization

**P**

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PIAT	Public Information Assist Team
PIO	Public Information Officer
PPE	Personal protective equipment
PRFA	Pollution Removal Funding Authorization
PRP	Potentially responsible party
PSAP	Public Safety Answering Point

**Q**

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QCSA	Quad Cities Subarea
QCSACP	Quad Cities Subarea Contingency Plan

**R**

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RDB	Right descending bank
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
RERT	Radiological Emergency Response Team
RICOMM	Rock Island County Communications
RICP	Regional Integrated Contingency Plan
RP	Responsible party
RPM	Remedial Project Manager
RRT	Regional Response Team

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**S**

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SACP	Subarea Contingency Plan
SARA	Superfund Amendments and Reauthorization Act of 1986
SARA Title III	Title III SARA
SECC	Scott County Emergency Communication Center
SEOC	State Emergency Operations Center
SERC	State Emergency Response Commission
SHPO	State Historic Preservation Officer
SMOA	Superfund Memorandum of Agreement
SOSC	State On-Scene Coordinator
SSC	Scientific Support Coordinator
SSO	Site Safety Officer
SSP	Site Safety Plan
START	Superfund Technical Assessment and Response Team
SUPSALV	Supervisor of Salvage

**T**

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TNC	The Nature Conservancy
TOP	Technical Operating Procedure

**U**

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U.S.C.	<i>United States Code</i>
UC	Unified Command
UMR	Upper Mississippi River
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
UST	Underground storage tank

**V**

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VFD	Volunteer fire department
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**W**

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WCD	Worst-case discharge
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## APPENDIX C: DEFINITIONS

Appendix B provides definitions for words or phrases that might be encountered during a response. Inclusion of definitions for various materials or treatment techniques should not be interpreted as endorsement or approval of their uses.

**Activation** means notification by telephone or other expeditious manner or, when required, assembly of some or all appropriate members of the RRT or NRT.

**Area Committee (AC)**, as provided for by CWA sections 311(a)(18) and (j)(40), means the entity appointed by the President consisting of members from qualified personnel of federal, state, and local agencies with responsibilities that include preparing an area contingency plan for an area designated by the President.

**Area Contingency Plan (ACP)**, as provided for by CWA sections 311(a)(19) and (j)(4), means the plan prepared by an AC that is developed to be implemented in conjunction with the NCP and RCP, in part to address removal of a worst-case discharge and to mitigate or prevent a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operating in or near an area designated by the President.

**Bioremediation Agents** means microbiological cultures, enzyme additives, or nutrient additives deliberately introduced into an oil discharge, and that will significantly increase the rate of biodegradation to mitigate effects of the discharge.

**CERCLA** is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

**Chemical Agents** means those elements, compounds, or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate mitigation of deleterious effects or removal of a pollutant from water. Chemical agents include biological additives, dispersants, sinking agents, miscellaneous oil spill control agents, and burning agents, but do not include sorbents.

**Claim**, for purposes of a release under CERCLA, means a demand in writing for a sum certain; for purposes of a discharge under CWA, it means a request, made in writing for a sum certain, for compensation for damages or removal costs resulting from an incident.

**Cleanup**, under the *Code of Iowa* Chapter 455B. 381(1), means actions necessary to contain, collect, control, identify, analyze, clean up, treat, disperse, remove, or dispose of a hazardous substance.

**Cleanup costs**, under the *Code of Iowa* Chapter 455B. 381(2), means costs incurred by the State or its political subdivisions or their agents, or by any other person participating with the approval of the director in prevention or mitigation of damages from a hazardous condition or cleanup of a hazardous substance involved in a hazardous condition.

**Coast Guard District Response Group (DRG)**, as provided for by CWA sections 311(a)(20) and (j)(3), means the entity established by the Secretary of the department in which the USCG is operating, within each USCG district, and shall consist of: the combined USCG personnel and equipment, including marine firefighting equipment, of each port in the district; additional prepositioned response equipment; and a district response advisory team.

**Community Awareness Emergency Response (CAER)** groups support spill response capacity through activities including arranging training and exercise for the members, developing shared equipment caches and mutual aid pacts, and conducting area planning.

**Crude Oil** is petroleum as it occurs naturally, as it comes from an oil well, or after extraneous substances (as entrained water, gas, and minerals) have been removed.

**Bakken crude oil**, found in large areas of northwestern North Dakota, northeastern Montana, southern Saskatchewan, and southwestern Manitoba, is characterized as sweet meaning it has little or no hydrogen sulfide. This crude oil is shipped with gas and other chemicals to keep it in liquid form, consequently making it highly combustible.

**Tar sands oil** is a combination of clay, sand, water, and bitumen—a heavy, black, viscous oil. Tar sands can be mined and processed to extract the oil-rich bitumen, which is then refined into oil. The bitumen in tar sands cannot be pumped from the ground in its natural state; instead, tar sand deposits are mined, usually by application of strip mining or open pit techniques, or the oil is extracted by underground heating with additional upgrading. The Canadian tar sands industry is centered in Alberta, and Canada has the only large-scale commercial tar sands industry. This crude oil is heavy crude oil and is especially difficult to clean up because it sinks to the bottom of waterways.

**West Texas Intermediate Oil**, also known as Texas light sweet, is a grade of crude oil. This grade is described as light because of its relatively low density, and sweet because of its low sulfur content.

**Note:** Appendix R contains example safety data sheets for several types of crude oils.

**Discharge**, as defined by section 311(a)(2) of the CWA, includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes any of the following: (1) discharges in compliance with a permit under section 402 of the CWA; (2) discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; and (3) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of the NCP, discharge also means substantial threat of discharge.

**Dispersants** means those chemical agents that emulsify, disperse, or solubilize oil into a water column or promote surface spreading of oil slicks to facilitate dispersal of oil into a water column.

**Environment**, as defined by section 101(8) of CERCLA, means navigable waters, waters of the contiguous zone, and ocean waters natural resources of which are under the exclusive management authority of the United States under the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.); and any other surface water, groundwater, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

**Facility**, as defined by section 101(9) of CERCLA, means any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise has come to be located; but does not include any consumer product in consumer use or any vessel. As defined by section 1001

of the OPA, it means any structure, group of structures, equipment, or device (other than a vessel) used for one or more of the following purposes: exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil. This term includes any motor vehicle, rolling stock, or pipeline used for one or more of these purposes.

**Federal Response Plan** means the agreement signed by 27 federal departments and agencies in April 1987 and developed under authorities of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7701 et seq.) and the Disaster Relief Act of 1974 (42 U.S.C. 3231 et seq.), as amended by the Stafford Disaster Relief Act of 1988.

**First Federal Official** means the first federal representative of a participating agency of the NRT to arrive at the scene of a discharge or a release. This official coordinates activities under the NCP and may initiate, in consultation with the OSC, any necessary actions until the arrival of the predesignated OSC. A state with primary jurisdiction over a site covered by a cooperative agreement will act in the stead of the First Federal Official for any incident at the site.

**Fund or Trust Fund** means the Hazardous Substance Superfund established by section 9507 of the Internal Revenue Code of 1986.

**Groundwater**, as defined by section 101(12) of CERCLA, means water in a saturated zone or stratum beneath the surface of land or water.

**Hazardous condition**, under the *Iowa Administrative Code* 567.1-131.1 (455B), means any situation involving actual, imminent, or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state, or into the atmosphere which, because of the quantity, strength, and toxicity of the hazardous substance, its mobility in the environment, and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

**Hazardous substance (Illinois)**, under the Illinois Uniform Hazardous Substances Act, Chapter 111½ [pars.] 252, means any substance or mixture of substances that is toxic, corrosive, an irritant, strong sensitizer, flammable, combustible, or which generates pressure through decomposition, heat, or other means, and which may cause substantial personal injury or illness during or as a proximate result of any customary or reasonably anticipated handling or use including reasonably foreseeable ingestion by children, and also means any radioactive substance if, with respect to such substance as used in a particular class of article or as packaged, the director determines by regulation that the substance is sufficiently hazardous to require labeling in accordance with this act in order to protect the public health.

**Hazardous substance (Iowa)**, under the *Iowa Administrative Code* 567.1-131.1 (455B), means any substance or mixture of substances that presents a danger to public health or safety and includes, but is not limited to, a substance that is toxic, corrosive, or flammable, or that is an irritant or that, in confinement, generates pressure through decomposition, heat, or other means. The following are examples of substances which, in sufficient quantity, may be hazardous: acids; alkalis; explosives; fertilizers; heavy metals such as chromium, arsenic, mercury, lead, and cadmium; industrial chemicals; paint thinners; paints; pesticides; petroleum products; poisons; radioactive materials; sludges; and organic solvents. Hazardous substances may include any hazardous waste identified or listed by the administrator of EPA under the Solid Waste Disposal Act as amended by RCRA of 1976, or any toxic pollutant listed under section 307 of the Federal Water Pollution Control Act as amended January 1, 1977, or any hazardous substance designated under section 311 of the Federal Water Pollution Control Act as amended January 1, 1977, or any hazmat designated by the Secretary of Transportation under the Hazardous Materials Transportation Act (49 CFR § 172.101).

**Hazardous substance**, as defined by section 101(14) of CERCLA, means any substance designated pursuant to section 311(b)(2)(A) of the CWA; any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste regulation under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] suspended by Act of Congress); any toxic pollutant listed under section 307(a) of the CWA; any hazardous air pollutant listed under section 112 of the CAA (42 U.S.C. 7521 et seq.); and any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act (15 U.S.C. 2601 et seq.). The term does not include petroleum, including crude oil or any fraction thereof not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

**Inland waters**, for the purposes of classifying the size of discharges, means those waters of the United States inland zone, waters of the Great Lakes, and specified ports and harbors on inland rivers.

**Lead Administrative Trustee** means a natural resource trustee designated incident-by-incident for pre-assessment and assessment of damage that has occurred, chosen by the other trustees whose natural resources are affected by the incident. During response operations, the lead administrative trustee facilitates effective and efficient communication between the NPFC and the other natural resource trustees conducting activities associated with damage assessment, and is responsible for applying to the NPFC on behalf of all trustees for access to response operations resources to initiate a damage assessment.

**Lead agency** means the agency that provides the FOSC/RPM to plan and implement response actions under the NCP. The lead agency for a response action may be EPA, USCG, another federal agency, or a state or political subdivision of a state operating pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA, or designated pursuant to a Superfund Memorandum of Agreement (SMOA) entered into pursuant to subpart F of the NCP or other agreements. Regarding a release of a hazardous substance, pollutant, or contaminant, DOD or DOE will be the lead agency if the release is on, or the sole source of the release is from, any facility or vessel under jurisdiction, custody, or control of DOD or DOE. If the release is on, or the sole source of the release is from, any facility or vessel under jurisdiction, custody, or control of a federal agency other than EPA, USCG, DOD, or DOE, that agency will be the lead agency for remedial removal actions other than emergencies. The lead federal agency maintains lead status if the remedy is selected by that federal agency for non-National Priorities List sites, or by EPA and that federal agency, or by EPA alone under CERCLA section 120. The lead agency will consult with the support agency, if one exists, throughout the response process.

**Miscellaneous oil spill control agent** is any product, other than a dispersant, sinking agent, surface washing agent, surface collecting agent, bioremediation agent, burning agent, or sorbent, that can be used to enhance oil spill cleanup, removal, treatment, or mitigation.

**National Incident Management System (NIMS)** is a system mandated by Presidential Homeland Security Policy Directive-5 that provides a consistent, nationwide approach for federal, state, local, and tribal governments; the private sector; and nongovernmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents regardless of cause, size, or complexity. To provide for interoperability and compatibility among federal, state, local, and tribal capabilities, NIMS includes a core set of concepts, principles, and terminology. HSPD-5 identifies these as ICS; multi-agency coordination systems; training; identification and management of resources (including systems for classifying types of resources);



qualification and certification; and collection, tracking, and reporting of incident information and incident resources.

**National Pollution Funds Center (NPFC)** means the entity established by the Secretary of Transportation to administer the OSLTF. Among the NPFC's duties are: providing appropriate access to the OSLTF by federal agencies and states for removal actions, and by federal trustees for initiating assessment of natural resource damages; providing appropriate access to the OSLTF for claims; and coordinating cost recovery efforts.

**National Response Framework (NRF)** presents the guiding principles that enable responders to prepare for and provide a unified national response to disasters and emergencies ranging from the smallest incident to the largest catastrophe. The NRF establishes a comprehensive, national, all-hazards approach to domestic response. It defines the key principles, roles, and structures that will lead to an organized response. It describes how communities, tribes, states, the Federal Government, and private-sector and nongovernmental partners apply those principles for a coordinated, effective, national response. The NRF identifies special circumstances under which the Federal Government exercises a larger role, including incidents involving federal interests and catastrophic incidents requiring significant support for a state.

**National Response System (NRS)** is the mechanism for coordinating response actions by all levels of government in support of the OSC/RPM. The NRS is composed of the NRT, RRTs, OSC/RPM, ACs, and Special Teams and related support entities. The NRS is capable of expanding or contracting to accommodate the response effort required by the size or complexity of the discharge or release.

**National Strike Force Coordination Center (NSFCC)**, authorized as the National Response Unit by CWA sections 311 (a)(23) and (j)(2), means the entity established by the Secretary of the Department in which the USCG is operating at Elizabeth City, North Carolina, with responsibilities that include administering USCG Strike Teams, maintaining response equipment inventories and logistic networks, and conducting a national exercise program.

**Natural resources** means land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone defined by the Magnuson Fishery Conservation and Management Act of 1976); any state or local government; any foreign government; any Indian tribe; or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe.

**Navigable waters**, as defined by 40 CFR 110.1, means the waters of the United States, including the territorial seas. The term includes all of the following:

- (1) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to ebb and flow of the tide.
- (2) Interstate waters, including interstate wetlands.
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce, including any such waters:
  - (i) That are or could be used by interstate or foreign travelers for recreational or other purposes
  - (ii) From which fish or shellfish are or could be taken and sold in interstate or for commerce.
- (4) All impoundments of waters otherwise defined as navigable waters under this section.

- (5) Tributaries of waters identified in paragraphs (1) through (4) of this definition, including adjacent wetlands.
- (6) Wetlands adjacent to waters identified in paragraphs (1) through (5) of this definition—provided that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding determination of an area's status as prior converted cropland by any other federal agency, for the purposes of CWA, the final authority regarding CWA jurisdiction remains with EPA.

**Oil**, as defined by section 311(a)(1) of CWA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

**Oil**, also defined by section 1001 of the OPA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil, but does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of CERCLA (42 U.S.C. 9601), and which is subject to the provisions of CERCLA.

**Oil Spill Liability Trust Fund (OSLTF)** means the fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).

**On-Scene Coordinator (OSC)**, under subpart E of the NCP, means the federal official predesignated by EPA or USCG to coordinate and direct responses under subpart D of the NCP, or the government official designated by the lead agency to coordinate and direct removal actions.

**Onshore Facility**, as defined by section 101(18) of CERCLA, means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land or non-navigable water within the United States; and, as defined by section 311(a)(10) of the CWA, means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States other than submerged land.

**On-site** means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action.

**Person**, as defined by section 101(21) of CERCLA, means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States government, state, municipality, commission, political subdivision of a state, or any interstate body. As defined by section 1001 of OPA, "person" means an individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, or any interstate body.

**Person having control over a hazardous substance**, under the *Code of Iowa* Chapter 455B 381(7), means a person who at any time produces, handles, stores, uses, transports, refines or disposes of a hazardous substance release of which creates a hazardous condition, including bailees, carriers, and any other person in control of a hazardous substance when a hazardous condition occurs, whether the person owns the hazardous substance or is operating under a lease, contract, or other agreement with the legal owner of the hazardous substance.

**Pollutant or contaminant**, as defined by section 101(33) of CERCLA, shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chain, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring. The term does not include petroleum, including crude oil or any fraction thereof, that is not otherwise specifically listed or designated as a hazardous substance under section 101(14)(A) through (F) of CERCLA; nor does it include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas). For purposes of the NCP, the term pollutant or contaminant means any pollutant or contaminant that may present an imminent and substantial danger to public health or welfare of the United States.

**Public vessel**, as defined by section 311(a)(4) of the CWA, means a vessel owned or bareboat-chartered and operated by the United States, or by a state or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce.

**Remove or removal**, as defined by section 311(a)(8) of the CWA, refers to containment and removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare of the United States (including, but not limited to, fish, shellfish, wildlife, public and private property, and shorelines and beaches) or to the environment. For the purpose of the NCP, the term also includes monitoring of action to remove a discharge. As defined by section 101(23) of CERCLA, remove or removal means cleanup or removal of released hazardous substances from the environment; such actions as may be necessary taken in the event of the threat of release of hazardous substances in the environment; such actions as may be necessary to monitor, assess, and evaluate release or threat of release of hazardous substances; disposal of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare of the United States or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 104(b) of CERCLA, post-removal site control (where appropriate), and any emergency assistance that may be provided under the Disaster Relief Act of 1974. For the purpose of the NCP, the term also includes enforcement activities related thereto.

**Removal costs**, as defined by section 1001 of OPA, means the costs of removal incurred after a discharge of oil, or in any case involving a substantial threat of a discharge of oil, and costs to prevent, minimize, or mitigate oil pollution from such an incident.

**Respond or response**, as defined by section 101(25) of CERCLA, means removal, remedy, or remedial action, including enforcement activities related thereto.

**Responsible party (RP)**, as defined by section 1001 of OPA, means the following:

- (1) Vessels—In the case of a vessel, any person owning, operating, or demise chartering the vessel.
- (2) Onshore Facilities—In the case of an onshore facility (other than a pipeline), any person owning or operating the facility, except a federal agency, state, municipality, commission, or political subdivision of a state, or any interstate body that as the owner transfers possession and right to use the property to another person by lease, assignment, or permit.

- (3) Offshore Facilities—In the case of an offshore facility (other than a pipeline or a deepwater port licensed under the Deepwater Port Act of 1974 [33 U.S.C. 1501 et seq.]), the lessee or permittee of the area in which the facility is located or the holder of a right of use and easement granted under applicable state law or the Outer Continental Shelf Lands Act (43 U.S.C. 1301-1356) for the area in which the facility is located (if the holder is a different person than the lessee or permittee), except a federal agency, state, municipality, commission, or political subdivision of a state, or any interstate body that as owner transfers possession and right to use the property to another person by lease, assignment, or permit.
- (4) Deepwater Ports—In the case of a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501-1524), the licensee.
- (5) Pipelines—In the case of a pipeline, any person owning or operating the pipeline.
- (6) Abandonment—In the case of an abandoned vessel, onshore facility, deepwater port, pipeline, or offshore facility, the person who would have been the RP immediately prior to abandonment of the vessel or facility.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)** includes amendments to CERCLA, the Solid Waste Disposal Act, and the Internal Revenue Code in addition to certain free-standing provisions of law. Among the free-standing provisions of law is Title III of SARA, also known as the “Emergency Planning and Community Right-to-Know Act of 1986” and Title IV of SARA, also known as the “Radon Gas and Indoor Air Quality Research Act of 1986.” Title V of SARA amending the Internal Revenue Code is also known as the “Superfund Revenue Act of 1986.”

**Sinking agents** means those additives applied to oil discharges to sink floating pollutants below the water surface.

**Size classes of discharges** refers to the following size classes of oil discharges that are provided as guidance to the OSC and serve as the criteria for actions delineated in subpart D of the NCP. They are not meant to imply associated degrees of hazard to public health or welfare of the United States; nor are they a measure of environmental injury. Any oil discharge that poses a substantial threat to public health or welfare of the United States or the environment, or results in significant public concern, shall be classified as a major discharge regardless of the following quantitative measures:

- (1) Minor discharge means a discharge to the inland waters of less than 1,000 gallons of oil or a discharge to the coastal waters of less than 10,000 gallons of oil.
- (2) Medium discharge means a discharge of 1,000 to 10,000 gallons of oil to the inland waters or a discharge of 10,000 to 100,000 gallons of oil to the coastal waters.
- (3) Major discharge means a discharge of more than 10,000 gallons of oil to the inland waters or more than 100,000 gallons of oil to the coastal waters.

**Size classes of releases** refers to the following size classifications provided as guidance to the OSC for meeting pollution reporting requirements in subpart B of the NCP. The OSC will make the final determination of the appropriated classification of a release based on consideration of the particular release (e.g., size, location, impact, etc.):

- (1) Minor release means a release of a quantity of hazardous substance(s), pollutant(s), or contaminants(s) that poses minimal threat to public health or welfare of the United States or the environment.
- (2) Medium release means a release not meeting the criteria for classification as a minor or major release.

- (3) Major release means a release of any quantity of hazardous substance(s), pollutant(s), or contaminant(s) that poses a substantial threat to public health or welfare of the United States or the environment, or results in significant public concern.

**Sorbents** means essentially inert and insoluble materials used to remove oil and hazardous substances from water through adsorption, whereby the oil or hazardous substance is attracted to the sorbent surface and then adheres to it; absorption, in which the oil or hazardous substance penetrates the pores of the sorbent material; or a combination of the two. Sorbents are generally manufactured in particulate form for spreading over an oil slick or as sheets, rolls, pillows, or booms.

**Source control action** is construction or installation and startup of those actions necessary to prevent continued release of hazardous substances or pollutants or contaminants (primarily from a source on top of or within the ground, or in buildings or other structures) into the environment.

**Source control maintenance measures** are those measures intended to maintain effectiveness of source control actions once such actions are operating and functioning properly, such as maintenance of landfill caps and leachate collection systems.

**Specified ports and harbors** means those ports and harbor areas on inland rivers, and land areas immediately adjacent to those waters, where USCG acts as predesignated OSC. Exact locations are determined by EPA/USCG regional agreements and identified in federal Regional Contingency Plans and Area Contingency Plans.

**Spill of National Significance** means a spill that—due to its severity, size, location, actual or potential impact on public health and welfare or the environment, or the necessary response effort—is so complex that it requires extraordinary coordination of federal, state, local, and RP resources to contain and clean up the discharge.

**State** means the several states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory of possession over which the United States has jurisdiction. For purposes of the NCP, the term includes Indian tribes as defined in the NCP except where specifically noted. Section 126 of CERCLA provides that the governing body of an Indian tribe shall be afforded substantially the same treatment as a state with respect to certain provisions of CERCLA. Section 300.515(b) of the NCP describes the requirements pertaining to Indian tribes that wish to be treated as states under CERCLA.

**Support agency** means the agency or agencies that provide the support agency coordinator to furnish necessary data to the lead agency, review response data and documents, and provide other assistance as requested by the OSC or RPM. EPA, USCG, another federal agency, or a state may be a support agency for a response action if operating pursuant to a contract executed under section 104(d)(1) of CERCLA or designated pursuant to an SMOA entered into pursuant to subpart F of the NCP or other agreement. The support agency may also concur on decision documents.

**Surface collecting agents** means those chemical agents that form a surface film to control the layer thickness of oil.

**Surface washing agent** is any product that removes oil from solid surfaces, such as beaches and rocks, through a detergent mechanism, and does not involve dispersing or solubilizing the oil into the water column.

**Tank vessel**, as defined by section 1001 of the OPA, means a vessel constructed or adapted to carry oil, or that carries oil or hazmat in bulk as cargo or cargo residue, and that operates under any of the following circumstances:

- Is a vessel of the United States
- Operates on the navigable waters
- Transfers oil or hazmat in a place subject to the jurisdiction of the United States.

**Threat of discharge or release.** See definitions of discharge and release.

**Threat of release.** See definition of release.

**Trustee** means an official of a federal natural resources management agency designated in subpart G of NCP, or a designated state official or Indian tribe, or, in the case of discharges covered by OPA, a foreign government official, who may pursue claims for damages under section 107(f) of CERCLA or section 1006 of OPA.

**United States**, when used in relation to section 311(a)(5) of the CWA, means the states, the District of Columbia, the Commonwealth of Puerto Rico, the Northern Mariana Islands, Guam, American Samoa, the United States Virgin Islands, and the Pacific Island Governments. United States, when used in relation to section 101(27) of CERCLA and section 1001(36) of OPA, includes the several states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction.

**Vessel** as defined by section 101(28) of CERCLA, means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water; and, as defined by section 311(a)(3) of the CWA, means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel.

**Worst-case discharge**, as defined by section 311(a)(24) of the CWA, means, in the case of a vessel, a discharge under adverse weather conditions of its entire cargo, and, in the case of an offshore facility or onshore facility, the largest foreseeable discharge under adverse weather conditions.

## APPENDIX D: FEDERAL AGENCY CONTACTS

TABLE D5: FEDERAL AGENCY CONTACTS

<b>National Response Center - Washington, D.C.</b>		
<b>Business Hours</b>	National Response Center	800-424-8802
<b>24-hour</b>	National Response Center	800-424-8802
<b>EPA Region 5 - Chicago, IL</b>		
<b>Coordinating Office</b>	Emergency and Enforcement Response Branch	312-353-2318
<b>24-hour</b>	Emergency and Enforcement Response Branch	312-353-2318
<b>EPA Region 7 - Lenexa, KS</b>		
<b>Coordinating Office</b>	Emergency Response Program	913-551-7641
<b>24-hour</b>	Emergency Response Program	913-281-0991
<b>U.S. Coast Guard, 8th Coast Guard District – New Orleans, LA</b>		
<b>Coordinating Office</b>	Response Division	504-671-2230
<b>24-hour</b>	Command Center	504-589-6225
<b>U.S. Coast Guard – Sector Upper Mississippi River - St. Louis, MO</b>		
<b>Business Hours</b>	Sector Upper Mississippi River	314-269-2500
<b>24-hour</b>	Sector Upper Mississippi River	866-360-3386 314-269-2332
<b>Marine Safety Detachment Quad Cities (Rock Island, IL)</b>		
<b>Business Hours</b>	Marine Safety Detachment, Rock Island	309-782-0627
<b>24-hour</b>	Marine Safety Detachment, Rock Island	309-782-0627
<b>Marine Safety Detachment St. Paul</b>		
<b>Business Hours</b>	Marine Safety Detachment, St. Paul	952-806-0021
<b>24-hour</b>	Marine Safety Detachment, St. Paul	612-670-5094
<b>U.S. Army Corps of Engineers Rock Island District</b>		
<b>Coordinating Office</b>	Rock Island District	309-794-4200 800-799-8302
<b>Office Phone</b>	Lock & Dam 14 Pleasant Valley, IA	563-332-0907
<b>Office Phone</b>	Lock & Dam 15 Rock Island, IL	309-794-5266
<b>Office Phone</b>	Lock & Dam 16 Illinois City, IL	309-537-3191
<b>U.S. Fish and Wildlife Service</b>		
<b>Business Hours</b>	USFWS Midwest Regional Office, Region 3 (includes IL and IA)	612-713-5350
<b>24-hour / Cell</b>	USFWS Midwest Regional Office, Region 3 (includes IL and IA)	xxx-xxx-xxxx
<b>Business Hours</b>	USFWS Chicago Field Office (includes IL)	847-381-2253
<b>Business Hours</b>	USFWS Rock Island Field Office (includes IA)	309-757-5800 Ext. 218

**APPENDIX E: NATURAL RESOURCE TRUSTEE CONTACTS**

**TABLE E6: FEDERAL AND STATE NATURAL RESOURCE TRUSTEES**

<b>Federal Natural Resource Trustee - U.S. Department of the Interior</b>		
<b>Agency</b>	DOI Regional Environmental Office - Denver Region (IA)	303-980-3944 (office)
<b>24-hour</b>	Courtney Hoover, Regional Environmental Officer	xxx-xxx-xxxx (cell)
<b>Email</b>	Courtney Hoover	<a href="mailto:courtney_hoover@ios.doi.gov">courtney_hoover@ios.doi.gov</a>
<b>Agency</b>	DOI Regional Environmental Office - Philadelphia Region (IL)	215-597-5378/6518 (office)
<b>24-hour</b>	John Nelson, Regional Environmental Officer	202-208-6304 or 215-266-5155)
<b>Email</b>	John Nelson	<a href="mailto:john_nelson@ios.doi.gov">john_nelson@ios.doi.gov</a>
<b>Illinois Natural Resource Co-Trustee</b>		
<b>Agency</b>	Illinois Environmental Protection Agency	217-524-5027
<b>24-hour</b>	State Spill Line	217-782-2700 / 800-782-7860
<b>Email</b>	Roger Lauder	<a href="mailto:roger.lauder@illinois.gov">roger.lauder@illinois.gov</a>
<b>Local Office</b>	Rock Island Field Office	309-794-3598
<b>Other</b>	Illinois Emergency Management Agency	217-782-2700 / 800-782-7860
<b>Illinois Natural Resource Co-Trustee</b>		
<b>Agency</b>	Illinois Department of Natural Resources	217-785-0075
<b>24-hour</b>	State Spill Line	217-782-2700 / 800-782-7860
<b>Email</b>	Debbie Bruce	<a href="mailto:debbie.bruce@illinois.gov">debbie.bruce@illinois.gov</a>
<b>Local Office</b>	Morrison Rockwood State Park	815-772-4708
<b>Other</b>	Illinois Emergency Management Agency	217-782-2700 / 800-782-7860
<b>Iowa Natural Resource Trustee</b>		
<b>Agency</b>	Iowa Department of Natural Resources	515-204-3352
<b>24-hour</b>	Iowa Department of Natural Resources	515-725-8694
<b>Email</b>	Adam Broughton	<a href="mailto:adam.broughton@dnr.iowa.gov">adam.broughton@dnr.iowa.gov</a>
<b>Local Office</b>	Field Office # 6, Washington (Southeast IA)	319-653-2135
<b>Other</b>	Iowa Homeland Security & Emergency Management Dept.	515-725-3231 / 515-725-3297



**APPENDIX F: ADDITIONAL FEDERAL AND STATE CONTACTS**

**TABLE F7: FEDERAL RESOURCE CONTACTS AND NEIGHBORING STATE CONTACTS**

<b>National Pollution Funds Center – Washington, DC</b>		
<b>Business Hours</b>	National Pollution Funds Center	202-795-6000
<b>24-hour</b>	NPFC Command Duty Officer	202-494-9118
<b>Business Hours</b>	Team 1 (includes IA)	202-795-6067
<b>Business Hours</b>	Team 4 (includes IL)	202-795-6088
<b>National Park Service</b>		
<b>Business Hours</b>	NPS Midwest Regional Office (includes IL and IA)	402-661-1708
<b>24-hour</b>	NPS Emergency Incident Coordination Center	888-246-4335
<b>National Weather Service</b>		
<b>Business Hours</b>	NWS Quad Cities Forecast Office	563-386-3976
<b>U.S. Coast Guard, National Strike Force - Elizabeth City, NC</b>		
<b>Business Hours</b>	National Strike Force	252-331-6000
<b>24-hour</b>	National Strike Force	252-331-6000
<b>Scientific Support Coordinators (SSC)</b>		
<b>Business Hours</b>	Adam Davis, NOAA – USCG District 8	206-549-7759
<b>24-hour</b>	USCG District 8 Spill Line / NOAA Duty Phone	855-485-3727 / 206-526-4911
<b>Business Hours</b>	LT Greg Schweitzer, NOAA – USCG District 9	216-522-7760
<b>24-hour</b>	NOAA Emergency Response Division Duty Phone	206-526-4911
<b>24-hour</b>	EPA SSCs, EPA Emergency Response Team	908-321-6660
<b>Minnesota Pollution Control Agency – St. Paul, MN</b>		
<b>Agency</b>	Minnesota Pollution Control Agency	651-757-2160
<b>24-hour</b>	Minnesota Pollution Control Agency	800-422-0798 (inside MN) 651-649-5451 (outside MN)
<b>Email</b>	Jane Braun	<a href="mailto:jane.braun@state.mn.us">jane.braun@state.mn.us</a>
<b>Missouri Department of Natural Resources – Jefferson City, MO</b>		
<b>Agency</b>	Missouri Department of Natural Resources	573-526-3315
<b>24-hour</b>	Missouri Department of Natural Resources	573-634-2436
<b>Email</b>	Sean Counihan	<a href="mailto:sean.counihan@dnr.mo.gov">sean.counihan@dnr.mo.gov</a>
<b>Wisconsin Department of Natural Resources – Madison, WI</b>		
<b>Agency</b>	Wisconsin Department of Natural Resources	608-266-2598
<b>24-hour</b>	Wisconsin Department of Natural Resources	800-943-0003
<b>Email</b>	David Woodbury	<a href="mailto:david.woodbury@wisconsin.gov">david.woodbury@wisconsin.gov</a>

**TABLE F8: STATE HISTORIC PRESERVATION OFFICES**

Illinois Historic Preservation Agency – Springfield, IL		
Agency	Illinois State Historic Preservation Office	217-785-7930
Contact	State Historic Preservation Officer (SHPO) Deputy SHPO	Natalie Phelps Finnie Carey Mayer
Email / Website	<a href="mailto:carey.mayer2@Illinois.gov">carey.mayer2@Illinois.gov</a> / <a href="#">Illinois Historic Preservation Division of the Department of Natural Resources</a>	
Iowa Department of Cultural Affairs – Des Moines, IA		
Agency	State Historical Preservation Office	515-348-6285
Contact	State Historic Preservation Officer	Heather Gibb
Email / Website	<a href="mailto:heather.gibb@iowaeda.com">heather.gibb@iowaeda.com</a> / <a href="#">State Historic Preservation Office   Iowa Arts &amp; Culture (iowaeda.com)</a>	

**TABLE F9: STATE TRANSPORTATION AND LAW ENFORCEMENT AGENCIES**

Illinois Department of Transportation		
Agency	Illinois Dept. of Transportation (DOT)	217-782-2937
Agency	Illinois DOT- District 2, Dixon, IL	815-284-2271
Contact	Illinois DOT- District 2, District Engineer	Paul Loete
Website	<a href="#">IDOT Regions (illinois.gov)</a>	
Illinois State Police		
Agency	Illinois State Police District 7, East Moline, IL	309-752-4915
Contact	Lt. Jon Dively, Interim District Commander	309-752-4915
Website	<a href="#">Illinois State Police Home Page</a>	
Iowa Department of Transportation		
Agency	Iowa DOT	515-233-7900
Contact	John Haas, Director Emergency Operations	515-239-1040
Agency	Iowa DOT – District 6, Cedar Rapids, IA	800-866-4368
Contact	Jim Schnoebelen, District Engineer	319-364-0235
Website	<a href="http://www.news.iowadot.gov/newsandinfo/district_3northwest/">http://www.news.iowadot.gov/newsandinfo/district_3northwest/</a>	
Iowa State Patrol		
Agency	Iowa State Patrol District #12, Stockton, IA	563-284-9501
Website	<a href="http://www.dps.state.ia.us/index.shtml">http://www.dps.state.ia.us/index.shtml</a>	

**APPENDIX G: LOCAL PUBLIC SAFETY AGENCIES**

**TABLE G10: LOCAL EMERGENCY MANAGEMENT AGENCY (EMA) CONTACTS**

Agency	Coordinator	Mobile / Office / Alternate	Email
Rock Island County EMA	Jerry Shirk	309-799-5166 309-794-9111 309-794-1230	<a href="mailto:ema@ricosheriff.org">ema@ricosheriff.org</a>
Scott County EMA	Brian Payne	563-484-3050 563-343-3313 563-484-3056	<a href="mailto:brian.payne@scottcountyiowa.gov">brian.payne@scottcountyiowa.gov</a> <a href="mailto:ema@scottcountyiowa.gov">ema@scottcountyiowa.gov</a>
Rock Island County Agency/Department Listing: <a href="https://www.rockislandcountyiil.gov/438/FOIA-Directory">https://www.rockislandcountyiil.gov/438/FOIA-Directory</a>			
Scott County Agency/Department Listing: <a href="http://www.scottcountyiowa.com/contactus">http://www.scottcountyiowa.com/contactus</a>			

**TABLE G11: LOCAL FIRE DEPARTMENTS – ILLINOIS AND IOWA**

Fire Department (FD)	24-hour Number	Fire Department (FD)	24-hour Number
<b>Rock Island County, Illinois</b>		<b>Scott County, Iowa</b>	
Blackhawk Fire Protection District (FPD)	309-787-1131	Bettendorf FD	Scott (County) Emergency Communications Center (SECC) (563) 484-3000
East Moline FD	309-752-1505	Blue Grass VFD	
Moline FD	309-524-2250	Buffalo VFD	
Rock Island Arsenal FD	309-782-5948	Davenport FD	
Hampton FD	309-755-6182	Dixon VFD	
Silvis FD	309-792-9553	Donahue VFD	
Quad Cities Airport FD	309-757-1513	Durant VFD	
Andalusia Volunteer FD (VFD)	Rock Island Emergency Communications Center (RICOMM) (309) 732-2677	Eldridge VFD	
Barstow/Carbon Cliff VFD		LeClaire VFD	
Coal Valley VFD		Long Grove VFD	
Cordova VFD		Maysville VFD	
Coyne Center VFD		McCausland VFD	
Hampton VFD		New Liberty VFD	
Hillsdale VFD		Princeton VFD	
Illinois City, Buffalo Prairie VFD		Riverdale VFD	
Port Byron VFD		Walcott VFD	
Reynolds VFD			
Rock Island FD			

**TABLE G12: COUNTY AND MUNICIPAL LAW ENFORCEMENT AGENCIES**

Law Enforcement Agency	24-hour Number	Law Enforcement Agency	24-hour Number
<b>Rock Island County, Illinois</b>		<b>Scott County, Iowa</b>	
Rock Island County Sheriff's Office	309-794-1230	Scott County Sheriff's Office	563-484-3000 Scott (County) Emergency Communication Center (SECC)
Coal Valley Police Department	309-799-5416	Bettendorf Police Department	
East Moline Police Department	309-752-1555	Buffalo Police Department	
Milan Police Department	309-787-8520	Davenport Police Department	
Moline Police Department	309-797-0401	LeClaire Police Department	
Rock Island Police Department	309-786-5911	Princeton Police Department	
Silvis Police Department	309-792-1841	Riverdale Police Department	

Note: SECC maintains communications with law enforcement agencies outside the river buffer zone in Scott County (Blue Grass Police Department [PD], Eldridge PD, Long Grove PD, McCausland PD, and Walcott PD).

**Table G13: AMBULANCES AND AIR AMBULANCE PROVIDERS IN THE QUAD CITIES SUBAREA**

Ambulance Service	Emergency Number	Ambulance Service	Emergency Number
<b>Rock Island County, Illinois</b>		<b>Scott County, Iowa</b>	
Andulasia Volunteer Ambulance Service	309-798-5406	Medic Emergency Medical Services	563-484-3000
Blackhawk EMS	309-787-1131	Bennett Ambulance	423-569-6000
Cordova Center EMS Service	309-787-2459	Durant Ambulance	563-785-4540
Coyne Center Ambulance	309-787-2459	Wheatland EMS	563-374-1210
Illini Hospital District Ambulance	309-792-8634	<b>Air Ambulances/Medevac Provider</b>	
Moline Ambulance	309-524-2253	Air Critical Care	800-550-1025
Rock Island Arsenal EMS DOD	309-782-2911	MedForce [Air Services]	563-323-1000
Rock Island FD Ambulance	309-786-5911		
Trinity Ambulance Service	800-457-1143		
<b>Air Ambulances/Medevac Provider</b>			
Rock Island Life Flight Service	855-562-4900		

**APPENDIX H: QCSA PUBLIC SAFETY ANSWERING POINTS & 911 CALL CENTERS**

**TABLE H14: QCSA PUBLIC SAFETY ANSWERING POINTS (PSAP) & 911 CALL CENTERS**

Call Center / PSAP	Fire Departments (FD) & Volunteer FDs (VFD) Dispatched	Law Enforcement Agencies Dispatched	Ambulance Services Dispatched
<b>Illinois Communication Centers</b>			
Rock Island Emergency Communications Center (RICOMM) (309) 732-2677	Andalusia FD Barstow/Carbon Cliff VFD Cordova VFD Coyne Center VFD Hillsdale VFD Illinois City Buffalo Prairie VFD Port Byron VFD Reynolds VFD Rock Island FD	Rock Island County Sheriff's Office  Cordova Police Department (PD) Port Byron PD Coal Valley PD Hillsdale PD Rock Island PD	Advanced Medical Transport  Andalusia Coyne Center Ambulance  Rock Island Ambulance
QCOMM911 (309) 717-0771	Moline FD Blackhawk FD East Moline FD Silvis FD Hampton FD Carbon Cliff-Barstow FD Coal Valley FD Coyne Center FD Reynolds FD	Milan PD Silvis PD Moline PD East Moline PD	Moline Ambulance  Unity Point Health, Trinity
Rock Island Arsenal (309) 782-6001	Rock Island Arsenal FD	Rock Island Arsenal PD	Rock Island Arsenal Ambulance
<b>Iowa Communication Centers</b>			
Scott County Emergency Communications Center (563) 484-3000	Bettendorf FD Blue Grass VFD Buffalo VFD Davenport FD Dixon VFD Donahue VFD Durant VFD Eldridge VFD LeClaire VFD Long Grove VFD Maysville VFD McCausland VFD New Liberty VFD Princeton VFD Riverdale VFD Walcott VFD	Bettendorf PD Blue Grass PD Buffalo PD Davenport PD Eldridge PD LeClaire PD Princeton PD  Scott County Sheriff's Office  Scott County Conservation	Bennett Ambulance  Durant Ambulance  Medic EMS  Wheatland EMS

**APPENDIX I: SPECIALIZED TEAMS & OTHER SPILL RESPONSE SUPPORT**

**TABLE I15: SPECIALIZED RESPONSE TEAMS**

<b>Hazmat Teams</b>	<b>24/7 Number</b>	<b>Team Contact</b>
Davenport Hazmat Team	563-344-4015 563-484-3000	Ron Burchette, Hazmat Coordinator (563-321-7905) <a href="mailto:f537@ci.davenport.ia.us">f537@ci.davenport.ia.us</a>
Bettendorf Hazmat Team	563-326-7979 563-484-3000	Thom Sheetz, Hazmat Coordinator (563-344-4148) <a href="mailto:tscheetz@bettendorf.org">tscheetz@bettendorf.org</a>
Rock Island Hazmat Team	309-786-5911 309-732-2677	Jeff Yerkey, Coordinator (309-732-2800)
MABAS District 43 – Primary	309-786-5911	Rock Island Emergency Communications Center (RICOMM)
MABAS District 43 – Secondary	309-797-0402	
<b>Dive Teams and Rescue Teams</b>	<b>24/7 Number</b>	<b>Team Contact</b>
Big River Rescue and Recovery Dive Team	309-799-5416	Mark Poulos
<b>Scientific Support Coordinators (SSC)</b>	<b>24/7 Number</b>	<b>Contact</b>
NOAA – USCG District 8	206-375-5697 / 206-526-4911	Adam Davis (206-549-7759)
NOAA – USCG District 9	206-526-4911	LT Greg Schweitzer (216-522-7760)
EPA Emergency Response Team	908-321-6660	ERT Duty Phone (908-321-6660)
<b>Civil Support Teams</b>	<b>24/7 Number</b>	<b>Location / Team Contact</b>
Iowa 71st Civil Support Team	515-201-8998 515-201-8997 515-201-8996	Des Moines, IA LTC Russell Bossard – CDR <a href="mailto:russell.s.bossard.mil@mail.mil">russell.s.bossard.mil@mail.mil</a>
Illinois 5th Civil Support Team	217-761-3575	Peoria, IL
<b>Private Industry</b>	<b>Number</b>	<b>Location / Website</b>
Wakota Community Awareness Emergency Response (CAER) Group	651-458-0645/651- 226-3071	Cottage Grove, MN <a href="https://wakotacaer.org/">https://wakotacaer.org/</a>
Bettendorf Spill Cooperative / Environmental Management Service, Inc.	800-457-1042	Davenport, IA <a href="http://www.ems-inc.biz/">http://www.ems-inc.biz/</a>

**APPENDIX J: HOSPITALS**

**TABLE J16: HOSPITALS IN THE QUAD CITIES SUBAREA**

Hospital	Address	Main Number
<b>Illinois</b>		
Trinity Medical Center Moline	500 John Deere Road Moline, Illinois 61265	309-779-5000
Trinity Medical Center Rock Island	2701 West 17 <sup>th</sup> Street Rock Island, Illinois 61201	309-779-5000
Genesis Medical Center – Illini Campus	801 Illini Drive Silvis, Illinois	309-281-4000
<b>Iowa</b>		
Trinity Bettendorf	4480 Utica Ridge Rd Bettendorf, IA 52722	563-742-5000
Genesis Medical Center East	1227 East Rusholme Street Davenport, Iowa 52803	563-421-1000
Genesis Emergency Department	2140 53 <sup>rd</sup> Ave Bettendorf, IA 52722	563-421-1000

## APPENDIX K: AIR SUPPORT AND AIRPORTS

**TABLE K17: PUBLIC AIR SUPPORT**

Organization	24-Hour Telephone	Contact
Civil Air Patrol Illinois Wing	630-524-4400	Primary contact in Chicago, IL
Illinois Air National Guard	217-757-1285	182nd Air Support in Peoria, IL
Iowa Air National Guard	515-61-8540	132nd Wing in Des Moines, IA
Iowa Department of Transportation	515-233-7900	Operations Support Center
Iowa Highway Patrol Dispatch	515-323-4360	Division of Communications

**TABLE K18: COMMERCIAL & GENERAL AVIATION AIRPORTS IN THE QUAD CITIES SUBAREA**

Illinois Airports/Heliports	Runways	Telephone	Location
Black Airport (9IL7), Hillsdale	2,250 Feet Turf Helipad Turf	309-658-2767 (privately owned)	Lat: 41.60 Long: -90.18 Elevation: 580
Ritter Field (2IS4), Illinois City	1,900 Feet Turf	309-537-3295 (privately owned)	Lat: 41.33 Long: -91.01 Elevation: 552
Quad City INTL (KMLI), Moline	10,002 Feet Concrete 7,301 Feet Asphalt 5,016 Feet Concrete	309-764-9621	Lat: 41.44 Long: -90.50 Elevation: 590
Quad City Seaplane Base (I04), Moline	10,000 Feet Water	309-517-4500 (privately owned)	Lat: 41.46 Long: -90.49 Elevation: 560
Trinity Medical Center – Moline (IS97), Moline	Helipad Concrete	309-779-5000	Lat: 41.46 Long: -90.53 Elevation: 504
Trinity Medical Center – Rock Island (OISO), Rock Island	Helipad Concrete	309-779-5000	Lat: 41.49 Long: -90.57 Elevation: 664
Genesis Medical Center – Illini Campus (2LL6), Silvis	Helipad Concrete	563-421-1000	Lat: 41.49 Long: -90.41 Elevation: 700
Quad City MedForce Heliport (74IS), Colona	Heliport Concrete	309-792-3261	Lat: 41.49 Long: -90.31 Elevation: 654
Iowa Airports/Heliports	Runways	Telephone	Location
Davenport Municipal Airport (DVN), Davenport	5,511 Feet Concrete 4,001 Feet Concrete	563-391-6560	Lat: 41.61 Long: -90.58 Elevation 750.5
Stender Airport (01IA), Maysville	2,575 Feet Turf	563-386-1775 (privately owned)	Lat: 41.66 Long: -90.74 Elevation: 725
Genesis Medical Center East Campus Heliport (2IA0), Davenport	Heliport Asphalt/Turf	563-421-1611	Lat: 41.54 Long: -90.55 Elevation: 677
Quiet Valley Heliport (IA88), Bettendorf	Helipad Turf	319-359-0356	Lat: 41.70 Long: -90.46 Elevation: 504

Note: For more information, see airport listings at: <https://iowadot.gov/aviation/airport-information> and <https://www.aopa.org/destinations/airports/state/IL>.



## APPENDIX L: PUBLIC INFORMATION SOURCES

**TABLE L19: PUBLIC INFORMATION SOURCES**

Media	Media Outlets	Telephone	Other Contact Information
<b>Radio</b>			
iHeart Media Quad Cities 3535 East Kimberly Road Davenport, IA 52807	KCQQ 106.5 FM KISS 101.3 FM Mix 96 FM Fox Sports 1230 AM WLLR 103.7 FM ALT 104.5 WOC 1420 AM	(563) 344-7000	<a href="https://www.iheartmedia.com/">https://www.iheartmedia.com/</a>
Town Square Media 1229 Brady Street Davenport, IA 52803	KJOC 93.5 FM WXLP 96.9 FM KBEA 99.7 FM KQCS 104.9 FM KBOB 1170 AM	(563) 326-2541	<a href="http://www.townsquaremedia.com/local-media/brands?market=quad-cities">http://www.townsquaremedia.com/local-media/brands?market=quad-cities</a>
Augustana College 639 38 <sup>th</sup> St Rock Island, IL 61201	WVIK 90.3 FM	(309) 794-7500	<a href="http://wvik.org/#stream/0">http://wvik.org/#stream/0</a>
B100 1229 N Brady St Davenport, IA 52803	B100 FM	(563) 326-2541	<a href="http://b100quadcities.com/">http://b100quadcities.com/</a>
St. Ambrose College 518 W Locust St Davenport, IA 82803	KALA 88.5	(563) 333-6219	<a href="https://kalafm885.com/">https://kalafm885.com/</a>
Moody Radio P.O. Box 149 East Moline, IL 61244	WDLM 89.3	(309) 234-5111	<a href="http://www.moodyradioqc.fm/rdo_home.aspx?id=47854">http://www.moodyradioqc.fm/rdo_home.aspx?id=47854</a>
<b>Television</b>			
KWQC TV 6 805 Brady St Davenport, IA 52803	TV 6	(563) 383-7000	<a href="http://kwqc.com/">http://kwqc.com/</a>
WHBF & KLJB 231 18 <sup>th</sup> St Rock Island, IL 61201	TV 4 and 18	(309) 786-5441	<a href="http://www.ourquadcities.com">www.ourquadcities.com</a>
WQAD TV 8 3003 Park 16 <sup>th</sup> St Moline, IL 61265	TV 8	(309) 764-8888	<a href="http://wqad.com/">http://wqad.com/</a>
WQPT Quad Cities PBS 3300 River Drive Moline, IL 61265	PBS	(309) 764-2400	<a href="http://www.wqpt.org/">http://www.wqpt.org/</a>
<b>Newspapers</b>			
Quad City Times 500 E. 3 <sup>rd</sup> Street Davenport, IA 52803		(563) 383-2200	<a href="http://qctimes.com/">http://qctimes.com/</a> Daily newspaper
North Scott Press 214 N. Second Street Eldridge, IL 52748		(309) 285-8111	<a href="http://www.northscottpress.com/">http://www.northscottpress.com/</a> Weekly newspaper
The Des Moines Register 400 Locust Street, Suite 500 Des Moines, IA 50309		(515) 284-8065	<a href="http://www.desmoinesregister.com/">http://www.desmoinesregister.com/</a> Daily newspaper

## APPENDIX M: REGION 7 MISSISSIPPI RIVER VIEWER

### QCSA Web Map Application

The Region 7 Mississippi River Viewer is a Geographic Information Systems (GIS) application developed to assist QCSA members with hazard identification, vulnerability analysis, and risk assessment. The mapping application is comprised of numerous datasets and GIS services from local, state, and federal governments. The application extends one county deep from the banks of the Mississippi River from UMR River Mile 878 (Anoka County, Minnesota) to LMR River Mile 751 (Mississippi County, Missouri). Potential sources of spills/releases and the relative locations of environmentally sensitive areas can be displayed in the application to assist planning and response operations. The application uses ArcGIS Experience Builder platform to support GIS data display and customizable widgets. It can be accessed at [epaossc.org/QCSAP](https://epaossc.org/QCSAP) using the map link at the bottom of the webpage. Instructions for obtaining login credentials are provided on the webpage. The following is a partial list of data layers and widgets available in the application:

**Water:** River mile markers, public water wells, live stream gauges, port facilities, locks/dams, and hydrography points and lines, boat access/ramps, marinas, and non-navigable dams.

**Oil:** Facility Response Plan (FRP) sites, marine transportation related facilities, above- and below-ground storage tanks, oil and gas pipelines, and biofuel facilities.

**Facilities and Sites:** Resource Conservation and Recovery Act (RCRA) large-quantity waste generating sites, RCRA treatment/storage/disposal sites, Risk Management Plan (RMP) facilities, and water and wastewater treatment facilities.

**Infrastructure:** Railways, public and private schools, childcare centers, hospitals, and urgent care facilities.

**Environment:** Critical habitats, protected lands, state-managed lands, federal lands, archaeological sites, and other special designated areas.

**U.S. Army Corps of Engineers (USACE) Navigation Charts:** Charts covering UMR River Mile 763 through LMR River Mile 828, as well as Ohio River charts extending east from the confluence to Ohio River Mile 849 (Gallatin County, Illinois).

**Geographic Response Plans (GRP):** UMR GRPs River Miles 201 to 175, Missouri River GRPs River Miles 0 to 64, Meramec River GRPs River Miles 0 to 72, and spill response equipment caches maintained by USCG and Community Awareness and Emergency Response (CAER) groups.

**Widgets/Tools:** Editable Layers (add/revise spill response planning information), Trace Downstream, Emergency Response Guide (ERG), Incident Screening Report, Select, Query/Filter, Bookmark, Draw, Measure, and Print. Links to USFWS's [Information for Planning and Consultation \(IPaC\)](#) tool and [River Runner](#) are also posted in the application.

**APPENDIX N: ENVIRONMENTALLY SENSITIVE AREAS**

**TABLE N20: ENVIRONMENTALLY SENSITIVE AREAS – ILLINOIS**

County	Agency	Type	Name	Notes
Rock Island	IL Historic Preservation Agency	State Park	Black Hawk State Historic Site	The 208-acre tract is wooded and steeply rolling-bordering the Rock River in Rock Island County.
Rock Island	IL DNR	Nature Preserve	Black Hawk Forest Nature Preserve	107 Acres of Mississippi River bluffs dominated by oak forest. On the south edge of Rock Island in Black Hawk State Historic Site.
Rock Island	Rock Island County	County Forest Preserve	Illiniwek Forest Preserve	198 acre park located along the Mississippi River & a part of the Great River Trail. Boat ramp access to the Mississippi River.
Rock Island	Rock Island County	Forest Preserve	Loud Thunder Park Preserve	1,621 acres forest preserve that includes Lake George and a part of the Illinois Great River Road National Scenic Byway.
Rock Island	Rock Island County	Lake	Lake George	167 acre man-made lake with depths up to 55 feet and stocked with a variety of fish.
Rock Island	US Army Corps of Engineers	Mississippi River	Andalusia Slough	2 miles west of Andalusia on Illinois Route 92. The roadside park has boat ramp to Mississippi River.
Carroll, Rock Island, Whiteside	IL DNR	National Trail	Illinois Great River Trail	The trail is along 60 miles of the Mississippi River.
Rock Island	American Discovery Trail Society	National Trail	American Discovery Trail	This portion of the trail is 80 miles from Bureau Junction to Iowa line (Rock Island).
Rock Island	FWS	National Wildlife Refuge	Upper Mississippi River NWFR	The refuge covers over 240,000 acres and extends 261 river miles along the Mississippi River in four states. It encompasses one the largest blocks of floodplain habitat in the lower 48 states.
Rock Island	IL DNR	Nature Preserve	Elton E. Fawks Bald Eagle Refuge Nature Preserve	1.5 Miles N of Hampton. Bluffs overlook Lock & Dam 14. Important winter eagle roost. Second growth hardwood with very diverse spring flora in understory.

**TABLE N21: ENVIRONMENTALLY SENSITIVE AREAS – IOWA**

County	Agency	Type	Name	Notes
Scott	IA DNR	State Park	Cameron Woods	36 Acres mature upland hardwood forest dominated by oaks.
various counties	NPS	National Historic Trail	Lewis & Clark National Historic Trail	Generally following the Missouri River
various counties	NPS	National Historic Trail	Mormon Pioneer National Historic Trail	From Nauvoo, IL, westward across southern IA toward Omaha.
Scott	TNC	Project Area	Lock & Dam #14 Eagle Area	9.2 acre woodland preserve just south of Lock & Dam 14 along the Mississippi River.

**TABLE N21: ENVIRONMENTALLY SENSITIVE AREAS – IOWA**

County	Agency	Type	Name	Notes
Scott	FWS	National Wildlife Refuge	Upper Mississippi River NWFR	Savanna District extends along both sides of the Mississippi River from Dubuque, IA to Rock Island, IL
Scott	NPS	Identified in NPS Nationwide Rivers Inventory	Wapsipinicon River	Mississippi River to Hwy 334 at Frederika
Scott	IDNR	State Wildlife Area	Lost Grove Lake Wildlife Area	1538 Acres, 3/4 crops/upland, 1/4 timber. 6 Miles N of Davenport.
Scott	IDNR	State Wildlife Area	Princeton Wildlife Area	1208 Acres, 3/4 wetland, 1/4 timber & crops. 1.5 Miles N of Princeton.

## APPENDIX O: ENDANGERED AND THREATENED SPECIES

For an indexed inventory of Federally listed Threatened, Endangered, Proposed, and Candidate Species, see the U.S. Fish & Wildlife Service (USFWS) listing below for the applicable QCSA state. Listings for all QCSA counties, as well as specific locations within counties, can also be obtained through USFWS's [Information for Planning and Consultation \(IPaC\)](#) tool.

**Iowa:** [State List with County Distribution \(USFWS\)](#) and [Iowa Natural Areas Inventory \(IDNR\)](#)

**Illinois:** [State List with County Distribution \(USFWS\)](#) and  
[Illinois E & T Species by County \(Illinois Natural Heritage Database\)](#)

**APPENDIX P: REGULATED FACILITIES**

**TABLE P22: FACILITY RESPONSE PLAN SITES**

State	City	County	FRP No.	Facility Name	Address	Zip Code	Latitude	Longitude
IL	Rock Island	Rock Island	07A0178	Westway Feed Products LLC	22220 Route 84 North	61242	41.746001	-90.29193
IA	Bettendorf	Scott	07A0100	Arconic Davenport Works LLC	4879 State St	52722	41.53552	-90.46270
IA	Bettendorf	Scott	07A0035	Buckeye (formerly BP) - Bettendorf Terminal	75 31st St	52722	41.52497	-90.48887
IA	Bettendorf	Scott	07A0155	Magellan Pipeline Company - Bettendorf Terminal	312 S Bellingham St	52722	41.52920	-90.46754
IA	Bettendorf	Scott	07A0048	U.S. Oil - Bettendorf Terminal	2925 Depot St	52722	41.52331	-90.48736
IA	Davenport	Scott	07A0092	Flint Hills Resources - Davenport	501 East Front St	52804	41.46400	-90.67940
IA	Davenport	Scott	07A0037	TexPar Energy, LLC (Davenport Terminal)	601 E Front St	52804	41.46413	-90.67708

Source: U.S. EPA Region 7 FRP Database, November 2023

**TABLE P23: MARINE TRANSPORTATION RELATED SITES**

State	City	County	Facility Name	Materials Stored	Address	Zip Code	Latitude	Longitude
IA	Davenport	Scott	Flint Hills Resources - Davenport	Asphalt	501 E Front St	52804	41.46400	-90.67940
IA	Bettendorf	Scott	Flint Hills - Bettendorf	Natural Gasoline	4100 Elm St	52722	41.52329	-97.06375
IA	Davenport	Scott	TexPar Energy, LLC - Davenport	Asphalt, Diesel	601 E Front St	52804	41.46413	-90.67708

Source: MTR site information, USCG 8<sup>th</sup> District, December 2023

**TABLE P24: RISK MANAGEMENT PROGRAM SITES**

Company	Street Address	City	County	State	Zip Code	Latitude	Longitude
3M Company	22614 Route 84 North	Cordova	Rock Island	IL	61242	41.75501	-90.284167
Atlas Roofing Corp	3110 Morton Dr.	East Moline	Rock Island	IL	61244	41.522524	-90.409838
Cordova Energy Company, LLC	24712 19th Ave. North	Cordova	Rock Island	IL	61242	41.713130	-90.278633
Gold Star FS Inc.	25900 150th Ave. North	Cordova	Rock Island	IL	61242	41.670833	-90.270556
Tyson Fresh Meats Inc.	Route 92 S of 38th Ave. N	Hillsdale	Rock Island	IL	61257	41.554204	-90.224591
Americold, Bettendorf- Plant #80562	6875 State Street	Bettendorf	Scott	IA	52722	41.557550	-90.434511
Chemtreat Inc. Eldridge	200 Trails Road	Eldridge	Scott	IA	52748	41.621890	-90.574800
Harcros Chemicals Inc.	2040 W River Drive	Davenport	Scott	IA	52802	41.512510	-90.604210
Hawkins Water Treatment Group	300 S 14 <sup>th</sup> Avenue	Eldridge	Scott	IA	52748	41.652782	-90.566421
Iowa Amer Water Co East River Sta	1719 E River Drive	Davenport	Scott	IA	52805	41.528412	-90.550223
Kraft Foods Global	1337 W 2 <sup>nd</sup> Street	Davenport	Scott	IA	52802	41.520641	-90.593521
PB Leiner USA	7001 N Brady Street	Davenport	Scott	IA	52806	41.591581	-90.568423
River Valley Cooperative Eldridge NH3	201 S 18 <sup>th</sup> Avenue	Eldridge	Scott	IA	52748	41.652831	-90.562722
River Valley Cooperative Dixon NH3	29434 Allens Grove Road	Dixon	Scott	IA	52745	41.733330	-90.772241
River Valley Cooperative S/M Eldridge	200 S 18 <sup>th</sup> Avenue	Eldridge	Scott	IA	52748	41.654551	-90.563312
River Valley Cooperative Walcott	1113 N Main Street	Walcott	Scott	IA	52773	41.593890	-90.773622

Source: U.S. EPA Region 7 RMP Database, January 2023

**APPENDIX Q: EXAMPLE SAFETY DATA SHEETS FOR CRUDE OILS**





## Safety Data Sheet

Crude Oil (Sweet)

### SECTION 1 IDENTIFICATION

**Product Name:** Crude Oil (Sweet)

**Synonyms:** Crude Oil

**SDS #:** C1

**Product Use:** Crude Oil

**Restrictions on Use:** Use only as directed

**Manufacturer:**

Sinclair Oil Company  
P.O. Box 30825  
Salt Lake City, Utah 84130

**General Information:** [SDS@sinclairoil.com](mailto:SDS@sinclairoil.com)

Emergency Telephone: 800-424-9300 (CHEMTREC) or (703) 527-3887

**SDS Date of Preparation:** March 25, 2015

**Last Update:** June 10, 2020

### SECTION 2: HAZARDS IDENTIFICATION

**Classification:**

Physical	Health
Flammable Liquid Category 1	Aspiration Toxicity Category 1 Eye Irritation Category 2 Specific Target Organ Toxicity Single Exposure Category 3 (Nervous System) Specific Target Organ Toxicity Repeat Exposure Category 1 Specific Target Organ Toxicity Repeat Exposure Category 2 Carcinogen Category 1A Germ Cell Mutagenicity Category 1B

**Label Elements:**

Danger!



**Hazard Phrases:**

Extremely flammable liquid and vapor.

May be fatal if swallowed and enters airways.

Causes serious eye irritation.

May cause drowsiness or dizziness.

May cause cancer.

May cause genetic defects.

Causes damage to blood through prolonged or repeated exposure.

May cause damage to liver, spleen and thymus through prolonged or repeated exposure.

**Precautionary Phrases:**

**Prevention**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood  
Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment  
Use explosion-proof electrical, ventilating and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe mist, vapors or spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing and eye protection.

**Response**

IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical attention.  
IF exposed or concerned: Get medical attention.  
In case of fire: Use water fog, carbon dioxide, or dry chemical to extinguish.

**Storage and Disposal**

Store in a well-ventilated place. Keep cool. Keep container tightly closed.  
Store locked up  
Dispose of contents and container in accordance with local and national regulations.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

Chemical name	CAS No.	Concentration
Petroleum Crude Oil	8002-05-9	100%
Naphthalene	91-20-3	0-1%
Benzene	71-43-2	0-1%
Hydrogen Sulfide	7783-06-4	0-0.2%

**SECTION 4 EMERGENCY and FIRST AID PROCEDURES**

**Eye Contact:** Immediately flush eyes with water for several minutes. Get medical attention if irritation persists.

**Skin Contact:** Remove contaminated clothing and flush skin with water for several minutes. Wash thoroughly with soap and water. Get medical attention if irritation develops or persists. Launder clothing before reuse. Discard contaminated shoes.

**Inhalation:** Remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

**Ingestion:** Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Get immediate medical attention.

**Most important symptoms/effects, acute and delayed:** May cause mild eye irritation. Prolonged skin contact may cause irritation, cracking and drying of the skin. Inhalation may cause respiratory irritation and central nervous system effects. Harmful or fatal if swallowed. Aspiration during swallowing or vomiting may cause lung damage. May cause cancer. May cause genetic defects. Prolonged or repeated exposure may cause damage to blood, liver, spleen and thymus.

**Indication of immediate medical attention and special treatment, if necessary:** Immediate medical attention is required for ingestion.

#### SECTION 5 FIRE and EXPLOSION HAZARD DATA

**Suitable extinguishing media:** Use water fog, carbon dioxide, or dry chemical. Water or foam may cause frothing.

**Specific hazards arising from the chemical:** This product is extremely flammable and forms explosive mixtures with air. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back. Closed containers may explode if exposed to extreme heat. Combustion may produce carbon and sulfur oxides, hydrogen sulfide and other products of incomplete combustion.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear full emergency equipment and a NIOSH approved positive pressure self-contained breathing apparatus. Cool fire exposed container with water. Do not allow run-off from firefighting to enter drains or water courses.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective equipment. Eliminate ignition sources and ventilate the area with explosion proof equipment. Wash thoroughly after handling.

**Environmental hazards:** Avoid release into the environment. Report spill as required by local and federal regulations.

**Methods and materials for containment and cleaning up:** Contain with an inert absorbent and place into a closable container for disposal. Use non-sparking tools and equipment. If spill has not ignited, use water spray to disperse the vapors and protect personnel attempting to stop leak. Prevent entry in storm sewers and waterways. Runoff can cause a fire or explosion hazard in sewers.

#### SECTION 7 HANDLING and STORAGE

**Precautions for safe handling:** Avoid contact with eyes, skin and clothing. Do not breathe vapors. Wash thoroughly after handling. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep product away from heat, sparks, flames and all other sources of ignition. Do not permit smoking in use or storage areas. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer.

Use caution when opening containers. Hydrogen sulfide may collect in the headspace of containers during storage and overexposure may occur.

Do not cut, drill, grind or weld on or near containers, even empty containers. Empty containers retain product residues can be hazardous. Follow all SDS precautions when handling empty containers.

Refer to OSHA 1910.1028 for requirements for handling and use of benzene.

**Conditions for safe storage, including any incompatibilities:** Store in accordance with regulations for the storage of flammable liquids. Store in a dry, well ventilated area away from heat, direct sunlight and all sources of ignition. Store away from oxidizers and other incompatible materials. Protect containers from physical damage.

**SECTION 8 EXPOSURE CONTROLS and PERSONAL PROTECTION**

**Exposure Guidelines:**

<b>INGREDIENTS</b>	<b>EXPOSURE LIMITS</b>
Petroleum Crude Oil	5 mg/m <sup>3</sup> TWA OSHA PEL (as oil mist) ACGIH TLV None Established *
Naphthalene	10 ppm TWA OSHA PEL 10 ppm (skin) TWA ACGIH TLV
Benzene	1 ppm TWA, 5 ppm STEL OSHA PEL 0.5 ppm TWA, 2.5 ppm STEL ACGIH TLV
Hydrogen Sulfide	20 ppm Ceiling OSHA PEL 50 ppm 10 min Peak OSHA PEL 1 ppm TWA, 5 ppm STEL ACGIH TLV

\*Exposure to carcinogens must be kept to a minimum. Workers exposure by all routes should be monitored.

29 CFR 1910.1028 is the OSHA regulation on Occupational Exposure to Benzene. Assure compliance with these regulations.

**Appropriate engineering controls:** Use with local exhaust ventilation to maintain exposures below the occupational exposure limits. Use explosion proof equipment where required

**Respiratory protection:** If exposures are exceeded, use a NIOSH approved organic vapor respirator appropriate for the form and concentration of the contaminants should be used. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

**Skin protection:** Impervious gloves such as viton recommended to prevent skin contact.

**Eye protection:** Wear chemical safety goggles to avoid eye contact.

**Other:** Impervious coveralls, apron and boots is required to prevent skin contact and contamination of personal clothing. Suitable washing facilities should be available in the work area.

**SECTION 9 PHYSICAL and CHEMICAL PROPERTIES**

**Appearance (physical state, color, etc.):** Brown or black liquid

**Odor:** Petroleum hydrocarbon or rotten egg odor.

<b>Odor threshold:</b> 0.05 ppm (hydrogen sulfide)	<b>pH:</b> Not applicable
<b>Melting point/Pourpoint:</b> Not available	<b>Boiling Point:</b> Not available
<b>Flash point:</b> 20-200°F (-6.6-93.3°C)	<b>Evaporation rate:</b> Not available
<b>Flammability (solid, gas):</b> Not applicable	
<b>Flammable limits: LEL:</b> 0.5%	<b>UEL:</b> 10%
<b>Vapor pressure:</b> 0-800 mgHg@ 20°C	<b>Vapor density:</b> >1
<b>Relative density:</b> 0.7-1.1	<b>Solubility:</b> Negligible
<b>Partition coefficient: n-ctanol/water:</b> Not available	<b>Auto-ignition temperature:</b> 590°F (310°C)
<b>Decomposition temperature:</b> Not available	<b>Viscosity:</b> Not applicable

**SECTION 10 STABILITY and REACTIVITY**

**Reactivity:** This product is not expected to be reactive.

**Chemical stability:** The product is stable.

**Possibility of hazardous reactions:** None known.

**Conditions to avoid:** Keep away from heat and all sources of ignition.

**Incompatible materials:** Avoid oxidizing agents, acids, alkalies and halogens.

**Hazardous decomposition products:** Thermal decomposition may yield carbon and sulfur oxides and other products of incomplete combustion.

## SECTION 11 TOXICOLOGICAL INFORMATION

### Health Hazards:

**Inhalation:** Vapors may cause mild respiratory irritation. Overexposure to benzene by inhalation may cause exhilaration, nervous excitation, and/or giddiness, followed by a period of depression, drowsiness, or fatigue, tightness of the chest, unconsciousness, tremors or death. This product contains hydrogen sulfide. Overexposure to hydrogen sulfide may cause respiratory irritation, headache, nausea, incoordination, memory loss, fatigue, dizziness, irritability, olfactory paralysis, tremors and convulsions. May cause cardiac arrhythmia, pulmonary edema, unconsciousness and death.

**Skin Contact:** Skin contact may cause irritation, redness and defatting of the skin.

**Eye Contact:** Eye contact may cause mild irritation with redness, tearing and pain.

**Ingestion:** Swallowing may cause gastrointestinal irritation, nausea, vomiting, diarrhea. Aspiration during swallowing or vomiting may cause lung damage.

**Chronic Effects of Overexposure:** Benzene has been shown to cause damage to the blood forming system with anemia, leukopenia and thrombocytopenia by all routes of exposure. Repeat exposure studies showed crude oils by the oral and dermal routes to cause damage to the blood, liver, spleen and thymus.

**Mutagenicity:** Benzene did not induce in vitro mutation in bacteria using standard AMES test conditions. Mammalian cell gene mutation tests carried out in various human, mouse and Chinese hamster cells resulted in mixed results. Benzene is an in vivo mutagen in mammals, especially when chromosomal aberrations and micronuclei are induced. It has been reported that benzene exposure in humans induces genotoxic effects in lymphocytes in vivo. Petroleum crude oils showed some mutagenic activity in in vitro tests. In vivo results in the micronucleus assay did not demonstrate cytogenic activity.

**Reproductive Toxicity:** In a reproductive study, rats were administered 2 ml/kg (893 mg/kg) of crude oil during days 6-17 during gestation. Increase incidences of reabsorptions, increased fetal death and decreased fetal weights were seen at only maternally toxic doses NOEL 893 mg/kg. In another study, crude oil was applied to the backs of pregnant rats at 125, 500 and 100 mg/kg. Developmental toxicity was observed only at levels that were maternally toxic. NOEL for maternal toxicity 125 mg/kg. NOEL for developmental toxicity 500 mg/kg.

**Carcinogenicity:** Benzene is listed by IARC as "Carcinogenic to Humans" Group 1, by NTP as "Known to Be a Human Carcinogen" and as a "Confirmed Human Carcinogen", A1 by ACGIH. Naphthalene is listed by IARC as "Possibly Carcinogenic to Humans", Group 2B, as "Reasonably Anticipated to be a Human Carcinogen" and as a "Confirmed Animal Carcinogen with Unknown Relevance to Humans", A3 by ACGIH.

### Acute Toxicity Values: Acute Toxicity Estimate:

Petroleum Crude Oil: Oral rat LD50 >5000 mg/kg, Dermal rabbit LD50 >2000 mg/kg,

Naphthalene: Oral rat LD50 533 mg/kg, Inhalation rat LC0 0.4 mg/L (highest attainable concentration), Dermal rat LC50 >2500 mg/kg

Benzene: Oral rat LD50 >2000 mg/kg, Inhalation rat LC50 41.69 mg/L/4 hr, Dermal rabbit LD50 > 8260 mg/kg

Hydrogen Sulfide: Inhalation rat LC50 444 ppm /4 hr

**SECTION 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:**

Petroleum Crude Oil: 96 hr LL50 Oncorhynchus mykiss 21 mg/L, 96 hr crangon crangon 27 mg/L,  
Naphthalene: 96 hr LC50 Pimephales promelas 6.08 mg/L, 48 hr EC50 daphnia magna 2.16 mg/L  
Benzene: 96 hr LC50 Oncorhynchus mykiss 5.3 mg/L, 48 hr EC50 daphnia magna 10 mg/L, 72 hr EC50  
Pseudokirchnerella subcapitata 32 mg/L  
Hydrogen Sulfide: 48 hr EC50 daphnia magna 0.12 mg/L, 24 hr EC50 Scenedesmus sp 1.87 mg/L

**Persistence and degradability:** Crude oil is expected to be inherently biodegradable.

**Bioaccumulative potential:** Crude oil has the potential to bioaccumulate.

**Mobility in soil:** Components of crude oil will partition into various environmental compartment. Components may dissolve in water, float on the surface and form emulsions and adsorb to soil and sediment or agglomerate and sink in water to adhere to soil and sediment. They are considered potentially bioaccumulative.

**Other adverse effects:** Other risks to aquatic species, semi-aquatic birds and sea mammals include physical fouling of plumage, fur gills, ect by floating oil product. This results in loss of buoyance, insulation and smothering of inter-tidal animals. Ingestion of oil resulting from attempts by animals to clean contaminated body part may result in severe enteritis and toxicity.

**SECTION 13: DISPOSAL INFORMATION**

**Waste Disposal Method:** Dispose in accordance with all local, state and federal regulations.

**SECTION 14: TRANSPORTATION INFORMATION**

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
<b>DOT</b>	UN1267	Petroleum Crude Oil	3	PG II	No
<b>TDG</b>	UN1267	Petroleum Crude Oil	3	PG II	No
<b>IMDG</b>	UN1267	Petroleum Crude Oil	3	PG II	No
<b>IATA</b>	UN1267	Petroleum Crude Oil	3	PG II	No

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable.

**Special precautions:** None known.

**SECTION 15: REGULATORY INFORMATION**

**Safety, health, and environmental regulations specific for the product in question.**

**CERCLA Hazardous Substances (Section 103)/RQ:** This product has a Reportable Quantity (RQ) of 3,333 lbs. (based on the RQ for Naphthalene of 100 lbs). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**EPA SARA 311 Hazard Classification:** Acute Health, Chronic Health, Fire Hazard

**SARA 313:** This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Benzene	71-43-2	0-1%
Naphthalene	91-20-3	0-1%
Hydrogen Sulfide	7783-06-4	0-0.2%

**CALIFORNIA PROPOSITION 65:** This product contains chemicals known to the State of California to cause cancer or reproductive toxicity.

**WHMIS CLASSIFICATION:** Class B, Division 2 (Flammable Liquid), Class D, Division 2A (Very Toxic Material Causing Other Toxic Effects)

This product has been classified in accordance with the hazard criteria in the CPR and the SDS contains all the information required by the CPR.

**Australia AICS:** All of the components are listed on the Australian Inventory of Chemical Substances.

**Canada DSL:** All of the components are listed on the Canadian Domestic Substances List.

**China:** All the components are listed on Inventory of Existing Chemical Substances in China.

**European EINECS:** All of the ingredients are listed on the EINECS inventory.

**Korea:** All the components are listed on the Korean Existing Chemical List.

**New Zealand:** All the components are listed on the New Zealand Inventory of Chemicals.

**Philippines:** All the components are listed on the Philippine Inventory of Chemical and Chemical Substances inventory.

**US EPA Toxic Substances Control Act:** All of the components of this product are listed on the TSCA inventory.

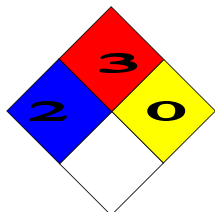
## SECTION 16: OTHER INFORMATION

**SDS Revision History:** Converted to GHS format – all Sections revised

**Date of current revision:** February 18, 2015

Date of previous revision: May 2005

National  
Fire  
Protection  
Association  
(U.S.A)



Health: 2  
Flammability : 3  
Instability: 0  
Specific Hazard: -

Disclaimer: This product material safety data sheet provides health and safety information. The product should be used in applications consistent with this product literature. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations.

This material safety data sheet is provided in good faith and meets the requirements of the hazardous communication provisions of SARA TITLE III and 29 CFR 1910.1200(g) of the OSHA regulations. The above information is based on review of available information Sinclair believes is reliable and is supplied for informational purposes only. Sinclair does not guarantee its completeness or accuracy. Since conditions of use are outside the control of Sinclair, Sinclair disclaims all warranties, express or implied, and any liability for damage or injury which results from the use of the above data. Nothing herein is intended to permit infringement of valid patents and licenses.





# Crude Oil Sour

Safety Data Sheet

SDS No: 6608

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 10/23/2018

Date of Issue: 01/15/2016

Version: 2.0

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Crude Oil Sour

**Synonyms:** Crude Petroleum

### 1.2. Intended Use of the Product

A natural product derived from various oil production fields primarily consisting of a complex combination of paraffinic and aromatic hydrocarbons and small amounts of nitrogen and sulfur compounds.

### 1.3. Name, Address, and Telephone of the Responsible Party

#### Customer

Hess Tower  
1501 McKinney  
Houston, TX 77010  
T:(713) 496-4000

When calling the main operator ask for the EHS Safety Department. All Hess SDSs are also available via the [Hess.com](http://Hess.com) website.

### 1.4. Emergency Telephone Number

**Emergency Number** : (800) 424-9300 CHEMTREC (24 hours)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### GHS-US/CA Classification

Flam. Liq. 2	H225
Acute Tox. 4 (Inhalation:gas)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Carc. 1B	H350
Repr. 2	H361
STOT SE 3	H336
STOT SE 3	H335
STOT RE 2	H373
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see Section 16.

### 2.2. Label Elements

#### GHS-US/CA Labeling

##### Hazard Pictograms (GHS-US/CA)



##### Signal Word (GHS-US/CA)

: Danger

##### Hazard Statements (GHS-US/CA)

: H225 - Highly flammable liquid and vapor.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.

# Crude Oil Sour SDS No: 6608

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H332 - Harmful if inhaled.  
H335 - May cause respiratory irritation.  
H336 - May cause drowsiness or dizziness.  
H350 - May cause cancer.  
H361 - Suspected of damaging fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H400 - Very toxic to aquatic life.  
H411 - Toxic to aquatic life with long lasting effects.

**Precautionary Statements (GHS-US/CA) :** P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.  
P242 - Use only non-sparking tools.  
P243 - Take action to prevent static discharges.  
P260 - Do not breathe gas, vapors, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P312 - Call a POISON CENTER or doctor if you feel unwell.  
P314 - Get medical advice/attention if you feel unwell.  
P321 - Specific treatment (see Section 4 on this SDS).  
P331 - Do NOT induce vomiting.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P370+P378 - In case of fire: Use appropriate media (see Section 5) to extinguish.  
P391 - Collect spillage.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, provincial, territorial and international regulations.

### 2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and should not be used as an indicator for the presence of gas. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

### 2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Petroleum	(CAS-No.) 8002-05-9	100	Flam. Liq. 1, H224 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
<b>Contains:</b>			
Name	Product Identifier	% *	GHS Ingredient Classification
Sulfur	(CAS-No.) 7704-34-9	<= 1	Skin Irrit. 2, H315 Aquatic Acute 3, H402 Comb. Dust
Ethylbenzene	(CAS-No.) 100-41-4	0.1 - 7	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapor), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Hydrogen sulfide	(CAS-No.) 7783-06-4	0.1 - 7	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400
Toluene	(CAS-No.) 108-88-3	0.1 - 7	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Xylenes (o-, m-, p- isomers)	(CAS-No.) 1330-20-7	0.1 - 7	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Naphthalene	(CAS-No.) 91-20-3	0.1 - 7	Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Comb. Dust

Full text of H-phrases: see Section 16.

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\*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

### SECTION 4: FIRST AID MEASURES

#### 4.1. Description of First-aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

#### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Causes serious eye irritation. Causes skin irritation. May cause drowsiness and dizziness. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Harmful if inhaled.

**Inhalation:** Harmful if inhaled. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation. Hydrogen sulfide may cause respiratory paralysis.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Ingestion:** Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

**Chronic Symptoms:** Suspected of damaging fertility. Suspected of damaging the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs. Contains trace amounts of benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 – Toxicological Information. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

#### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Water may be ineffective but water should be used to keep fire-exposed container cool.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

#### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Highly flammable liquid and vapor. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

**Explosion Hazard:** May form flammable or explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

**Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.

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### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. If heat from burning crude oil reaches water layer at bottom of storage tank, explosive boil-over can occur.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Small fires in the incipient stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke, or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish fire, often including the need for properly applied firefighting foam.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>). Black smoke. Toxic fumes may be released. Sulfur oxides.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

#### Reference to Other Sections

Refer to Section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Do not breathe gas, vapors, mist, or spray. Do not handle until all safety precautions have been read and understood. Avoid all contact with skin, eyes, or clothing.

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel. Stop leak if safe to do so.

#### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection. Use supplied air respiratory protection if hydrogen sulfide above 10 ppm. Use buddy system if hydrogen sulfide is above 100 ppm.

**Emergency Procedures:** Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Ventilate area. Eliminate ignition sources.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal – caution, flammable vapors may accumulate in closed containers.

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

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### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Do not pressurize, cut, or weld containers. Flammable vapors may accumulate in the head space of closed systems. Container may remain hazardous when empty. Handle empty containers with care because residual vapors are flammable. All crudes contain varying amounts of sulfur. Contains hydrogen sulfide which is an asphyxiant gas, and can be fatal. Hydrogen sulfide may cause damage to the blood, central nervous system, and cardiovascular system. High concentrations of this gas can cause unconsciousness and death. Has rotten egg smell but is not a good indicator of the presence of gas as olfactory fatigue (loss of smell) occurs rapidly. Under certain conditions and heating it may be possible to further levels of hydrogen sulfide may be released. Take appropriate precautions and follow applicable regulations.

#### Naturally Occurring Radioactive Material (NORM):

Industry experience indicates that this material may contain small amounts of uranium, thorium, and their decay products. These naturally-occurring radioactive materials (called NORM) can accumulate in process equipment, particularly equipment which handles the water associated with crude oil production. Scales, deposits, and sludge from this equipment may have a significant accumulation of NORM. Gamma radiation above background may be detected external to equipment contaminated with NORM; such equipment should be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a radiation hazard if inhaled. Steps should be taken to minimize skin and inhalation to NORM dusts/mists by wearing personal protective clothing [such as disposable Tyvek (DuPont)], utilizing respiratory protection (minimum of a HEPA filter), and practicing good personal hygiene. Please refer to API bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production", March 1, 2006 for additional information on managing NORM.

#### Possible Metal Corrosion:

Sour crude can contain varying concentrations of dissolved hydrocarbon gas, carbon dioxide, salts, organic acids and a water phase. Depending on the storage and handling conditions the water present may be oxygenated and contain carbon dioxide from contact with the air and the oil. The water phase will typically be a slightly acidic brine of varying concentrations and oxygen content and depending upon the metallurgy (example: tank, vessel, piping) and the temperature of the crude it's possible that pitting corrosion of certain metals (example: carbon steel) or galvanic corrosion of dissimilar metals could occur.

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Do not breathe gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid contact with skin, eyes and clothing.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

#### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

**Storage Conditions:** Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

**Incompatible Materials:** Oxidizing agents, metallic oxides, oxygen, halogens, halogenated derivatives, nitrogenous derivatives, strong acids and bases, anhydrides, alkali metals, free radical generators, polymerizable products, acetaldehyde, copper, rust.

**Special Rules on Packaging:** Recommended: steel in absence of moisture, stainless steel, polytetrafluoroethylene (PTFE) seals recommended. To be avoided: Copper and copper alloys.

#### 7.3. Specific End Use(s)

A natural product derived from various oil production fields primarily consisting of a complex combination of paraffinic and aromatic hydrocarbons and small amounts of nitrogen and sulfur compounds.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control Parameters

For substances listed in Section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Petroleum (8002-05-9)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>

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<b>USA NIOSH</b>	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (15 min)
<b>USA IDLH</b>	US IDLH (ppm)	1100 ppm (10% LEL)
<b>Naphthalene (91-20-3)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	10 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis - Sampling time: end of shift (nonquantitative, nonspecific)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	10 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	10 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	75 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	15 ppm
<b>USA IDLH</b>	US IDLH (ppm)	250 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	79 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	15 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	10 ppm
<b>British Columbia</b>	OEL STEL (ppm)	15 ppm
<b>British Columbia</b>	OEL TWA (ppm)	10 ppm
<b>Ontario</b>	OEL STEL (ppm)	15 ppm (in force until January 1, 2018)
<b>Ontario</b>	OEL TWA (ppm)	10 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	79 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	15 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	10 ppm
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	100 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	150 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	100 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	150 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	100 ppm
<b>British Columbia</b>	OEL STEL (ppm)	150 ppm
<b>British Columbia</b>	OEL TWA (ppm)	100 ppm
<b>Ontario</b>	OEL STEL (ppm)	150 ppm
<b>Ontario</b>	OEL TWA (ppm)	100 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	150 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	100 ppm
<b>Toluene (108-88-3)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	20 ppm

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<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	200 ppm
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	300 ppm
<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	500 ppm Peak (10 minutes)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	375 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	560 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	150 ppm
<b>USA IDLH</b>	US IDLH (ppm)	500 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	50 ppm
<b>British Columbia</b>	OEL TWA (ppm)	20 ppm
<b>Ontario</b>	OEL TWA (ppm)	20 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	50 ppm
<b>Ethylbenzene (100-41-4)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	20 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	0.15 g/g Kreatinin Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	545 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	125 ppm
<b>USA IDLH</b>	US IDLH (ppm)	800 ppm (10% LEL)
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	543 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	125 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	100 ppm
<b>British Columbia</b>	OEL TWA (ppm)	20 ppm
<b>Ontario</b>	OEL TWA (ppm)	20 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	543 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	125 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	100 ppm
<b>Hydrogen sulfide (7783-06-4)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	1 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	5 ppm
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	20 ppm



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<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes once, only if no other measurable exposure occurs)
<b>USA NIOSH</b>	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (ceiling) (ppm)	10 ppm
<b>USA IDLH</b>	US IDLH (ppm)	100 ppm
<b>Alberta</b>	OEL Ceiling (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
<b>Alberta</b>	OEL Ceiling (ppm)	15 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	10 ppm
<b>British Columbia</b>	OEL Ceiling (ppm)	10 ppm
<b>Ontario</b>	OEL STEL (ppm)	15 ppm
<b>Ontario</b>	OEL TWA (ppm)	10 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	15 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	10 ppm
<b>Sulfur (7704-34-9)</b>		
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Benzene (71-43-2) *Trace Amounts</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	0.5 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	2.5 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
<b>USA OSHA</b>	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	25 ppm
<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes)
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	0.1 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	1 ppm
<b>USA IDLH</b>	US IDLH (ppm)	500 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	2.5 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1.6 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	0.5 ppm
<b>British Columbia</b>	OEL STEL (ppm)	2.5 ppm
<b>British Columbia</b>	OEL TWA (ppm)	0.5 ppm
<b>Ontario</b>	OEL STEL (ppm)	2.5 ppm (applies to workplaces to which the designated substance regulation does not apply) 2.5 ppm (designated substances regulation)
<b>Ontario</b>	OEL TWA (ppm)	0.5 ppm (applies to workplaces to which the designated substances regulation does not apply) 0.5 ppm (designated substances regulation)
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	15.5 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	5 ppm

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Québec	VEMP (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Québec	VEMP (ppm)	1 ppm

### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Wear fire/flamm resistant/retardant clothing.

**Hand Protection:** Wear protective gloves.

**Eye and Face Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Whenever workplace conditions warrant the use of a respirator, a respiratory protection program should be followed that meets or exceeds OSHA 29 CFR 1910.134 and ANSI Z.88.2. Only respirators approved by NIOSH should be selected for use. Protection provided by air-purifying respirators is limited. API recommends the uses of a SCBA or positive pressure/ pressure demand respirator for atmospheric that exceed 10 PPM H<sub>2</sub>S or 2 PPM SO<sub>2</sub>, see API RP 55. Crude oil vapors can displace air causing an oxygen deficient atmosphere. Entry into an oxygen deficient environment can only be made using: 1) a full face piece pressure demand self-contained breathing apparatus (SCBA) with a minimum service life of thirty minutes, or 2) a combination full face piece pressure demand supplied-air respirator with an auxiliary self-contained air supply. A level of H<sub>2</sub>S gas at or above 100 ppm is Immediately Dangerous to Life and Health (IDLH). Entry into IDLH atmospheres can only be made using: 1) a full face piece pressure demand self-contained breathing apparatus (SCBA) with a minimum service life of thirty minutes, or 2) a combination full face piece pressure demand supplied-air respirator with an auxiliary self-contained air supply. Entry into IDLH atmospheres require the use of the Buddy System, see OSHA 1910.120.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Thick, Dark Yellow to Brown or Greenish Black
Odor	: Characteristic, petroleum/asphalt-type odor. Hydrogen sulfide (H <sub>2</sub> S) has a rotten egg "sulfurous" odor. This odor should not be used as a warning property of toxic levels because H <sub>2</sub> S can overwhelm and deaden the sense of smell. Also, the odor of H <sub>2</sub> S in heavy oils can easily be masked by the petroleum-like odor of the oil. Therefore, the smell of H <sub>2</sub> S should not be used as an indicator of a hazardous condition - a H <sub>2</sub> S meter or colorimetric indicating tubes are typically used to determine the concentration of H <sub>2</sub> S.
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Variable
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: > 260 °C (> 500 °F)
Flash Point	: < (23 - 93) °C (73.4 - 199.4) °F
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available

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Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: 3 - 5
Relative Density	: Not available
Specific Gravity	: AP 0.7 - 0.9 (Water = 1)
Solubility	: Insoluble in water
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

## SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability:** Highly flammable liquid and vapor. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization can occur. May polymerize violently or explosively if contaminated or overheated.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. Incompatible Materials:** Oxidizing agents, metallic oxides, oxygen, halogens, halogenated derivatives, nitrogenous derivatives, strong acids and bases, anhydrides, alkali metals, free radical generators, polymerizable products, acetaldehyde, copper, rust.
- 10.6. Hazardous Decomposition Products:** Chromic anhydride, nitrogen iodide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity (Oral):** Not classified

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Inhalation:gas: Harmful if inhaled.

#### LD50 and LC50 Data:

Crude Oil Sour	
ATE US/CA (gas)	6,342.86 ppmV/4h

**Skin Corrosion/Irritation:** Causes skin irritation.

**Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** May cause cancer.

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure.

**Reproductive Toxicity:** Suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness or dizziness. May cause respiratory irritation.

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

**Symptoms/Injuries After Inhalation:** Harmful if inhaled. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation. Hydrogen sulfide may cause respiratory paralysis.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Symptoms/Injuries After Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Symptoms/Injuries After Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Symptoms/Injuries After Ingestion:** Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

**Chronic Symptoms:** Suspected of damaging fertility. Suspected of damaging the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

### 11.2. Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

Petroleum (8002-05-9)
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LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
<b>Naphthalene (91-20-3)</b>	
LD50 Oral Rat	533 - 710 mg/kg
LC50 Inhalation Rat	> 340 mg/m <sup>3</sup> (Exposure time: 1 h)
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
LD50 Oral Rat	> 5000 mg/kg
LC50 Inhalation Rat	27.57 mg/l/4h
ATE US/CA (dermal)	1,100.00 mg/kg body weight
ATE US/CA (vapors)	11.00 mg/l/4h
<b>Toluene (108-88-3)</b>	
LD50 Oral Rat	2600 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
LC50 Inhalation Rat	25.7 mg/l/4h
<b>Ethylbenzene (100-41-4)</b>	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h (Exposure time: 4 h)
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 Inhalation Rat	444 ppm/4h
<b>Sulfur (7704-34-9)</b>	
LD50 Oral Rat	> 3000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 9.23 mg/l/4h
<b>Petroleum (8002-05-9)</b>	
IARC Group	3
<b>Naphthalene (91-20-3)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
IARC Group	3
<b>Toluene (108-88-3)</b>	
IARC Group	3
<b>Ethylbenzene (100-41-4)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecology - General: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

<b>Petroleum (8002-05-9)</b>	
LC50 Fish 1	7.1 mg/l (Species: Pimephales promelas, Exposure time 96 h)
LC50 Other Aquatic Organisms 1	2.7 mg/l LL50 96 hr (Kelp forest mysid shrimp)
EC50 Daphnia 1	6.9 mg/l (Exposure time: 48 h)
<b>Naphthalene (91-20-3)</b>	
LC50 Fish 1	5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

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<b>EC50 Daphnia 2</b>	1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
<b>LC50 Fish 1</b>	3.3 mg/l
<b>EC50 Daphnia 1</b>	3.82 mg/l (Exposure time: 48 h - Species: water flea)
<b>LC50 Fish 2</b>	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
<b>NOEC Chronic Crustacea</b>	1.17
<b>Toluene (108-88-3)</b>	
<b>LC50 Fish 1</b>	15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>EC50 Daphnia 1</b>	5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>LC50 Fish 2</b>	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>EC50 Daphnia 2</b>	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>NOEC Chronic Fish</b>	1.4 mg/l (Oncorhynchus kisutch)
<b>NOEC Chronic Crustacea</b>	0.74 mg/l (Ceriodaphnia dubia)
<b>Ethylbenzene (100-41-4)</b>	
<b>LC50 Fish 1</b>	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
<b>EC50 Daphnia 1</b>	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC50 Fish 2</b>	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
<b>NOEC Chronic Crustacea</b>	0.956 mg/l
<b>Hydrogen sulfide (7783-06-4)</b>	
<b>LC50 Fish 1</b>	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
<b>LC50 Fish 2</b>	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>Sulfur (7704-34-9)</b>	
<b>LC50 Fish 1</b>	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
<b>EC50 Daphnia 1</b>	736 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC50 Fish 2</b>	14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

### 12.2. Persistence and Degradability

<b>Crude Oil Sour</b>	
<b>Persistence and Degradability</b>	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative Potential

<b>Crude Oil Sour</b>	
<b>Bioaccumulative Potential</b>	Not established.
<b>Naphthalene (91-20-3)</b>	
<b>BCF Fish 1</b>	30 - 430
<b>Log Pow</b>	3.6
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
<b>BCF Fish 1</b>	0.6 (0.6 - 15)
<b>Log Pow</b>	2.77 - 3.15
<b>Toluene (108-88-3)</b>	
<b>Log Pow</b>	2.7
<b>Ethylbenzene (100-41-4)</b>	
<b>BCF Fish 1</b>	15
<b>Log Pow</b>	3.2
<b>Hydrogen sulfide (7783-06-4)</b>	
<b>BCF Fish 1</b>	(no bioaccumulation expected)
<b>Log Pow</b>	0.45 (at 25 °C)

### 12.4. Mobility in Soil

Not available

### 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Additional Information:** Handle empty containers with care because residual vapors are flammable.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**Marine Pollutant** : Marine pollutant  
**ERG Number** : 128



### 14.2. In Accordance with IMDG

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**EmS-No. (Fire)** : F-E  
**EmS-No. (Spillage)** : S-E  
**Marine pollutant** : Marine pollutant



### 14.3. In Accordance with IATA

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Identification Number** : 3  
**Hazard Class** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**ERG Code (IATA)** : 3L



### 14.4. In Accordance with TDG

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**Marine Pollutant (TDG)** : Marine pollutant



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

Crude Oil Sour	
SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Aspiration hazard Health hazard - Carcinogenicity Health hazard - Acute toxicity (any route of exposure) Health hazard - Reproductive toxicity

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	Health hazard - Skin corrosion or Irritation Physical hazard - Flammable (gases, aerosols, liquids, or solids)
<b>Petroleum (8002-05-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Naphthalene (91-20-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Toluene (108-88-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	1000 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Ethylbenzene (100-41-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	1000 lb
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Hydrogen sulfide (7783-06-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 302 Threshold Planning Quantity (TPQ)</b>	500 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Sulfur (7704-34-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State Regulations

<b>Naphthalene (91-20-3)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Toluene (108-88-3)</b>	
<b>U.S. - California - Proposition 65 - Developmental Toxicity</b>	WARNING: This product contains chemicals known to the State of California to cause birth defects.
<b>Ethylbenzene (100-41-4)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Petroleum (8002-05-9)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Naphthalene (91-20-3)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List	

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U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Xylenes (o-, m-, p- isomers) (1330-20-7)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Toluene (108-88-3)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Ethylbenzene (100-41-4)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Hydrogen sulfide (7783-06-4)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Sulfur (7704-34-9)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## 15.3. Canadian Regulations

### **Petroleum (8002-05-9)**

Listed on the Canadian DSL (Domestic Substances List)

### **Naphthalene (91-20-3)**

Listed on the Canadian DSL (Domestic Substances List)

### **Xylenes (o-, m-, p- isomers) (1330-20-7)**

Listed on the Canadian DSL (Domestic Substances List)

### **Toluene (108-88-3)**

Listed on the Canadian DSL (Domestic Substances List)

### **Ethylbenzene (100-41-4)**

Listed on the Canadian DSL (Domestic Substances List)

### **Hydrogen sulfide (7783-06-4)**

Listed on the Canadian DSL (Domestic Substances List)

### **Sulfur (7704-34-9)**

Listed on the Canadian DSL (Domestic Substances List)

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest** : 10/23/2018

**Revision**

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

**GHS Full Text Phrases:**

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
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Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Sol. 2	Flammable solids Category 2
Press. Gas (Liq.)	Gases under pressure Liquefied gas
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H228	Flammable solid
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life

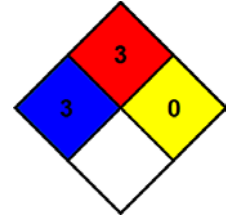
# Crude Oil Sour SDS No: 6608

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

- NFPA Health Hazard** : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA Fire Hazard** : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA Reactivity Hazard** : 0 - Material that in themselves are normally stable, even under fire conditions.



*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

NA GHS SDS 2015 (Can, US)

**Section 1: IDENTIFICATION**

**Product Name:** Heavy Crude Oil, UN1267 PG I, Non-toxic

**Synonyms:** CHV; Nipisi Heavy CRD; Nipisi Heavy Crude; Wabasca Heavy CRD; Wabasca Heavy Crude; WH; Seal Heavy Crude; Seal Heavy CRD; Rainbow Heavy Crude; Rainbow Heavy CRD; SH.

**Product Use:** Refinery feedstock.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Pembina Pipeline Corporation  
4000, 585 - 8th Avenue SW  
Calgary, Alberta T2P 1G1

**Emergency Phone:** 1-800-360-4706

**Date of Preparation of SDS:** January 12, 2021

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Flammable Liquids, Category 1  
Skin Irritation, Category 2  
Germ Cell Mutagenicity, Category 1B  
Carcinogenicity, Category 1A  
Reproductive Toxicity, Category 2  
Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects  
Specific Target Organ Toxicity (Repeated Exposure), Category 2

**LABEL ELEMENTS****Hazard****Pictogram(s):****Signal Word:** Danger

**Hazard Statements:** Extremely flammable liquid and vapor.  
Causes skin irritation.  
May cause genetic defects.  
May cause cancer.  
Suspected of damaging fertility or the unborn child.  
May cause drowsiness or dizziness.  
May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical, ventilating, and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe mist, vapours, or spray.

Wash thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Wear protective gloves, protective clothing and eye protection.

**Response:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 If inhaled: Remove person to fresh air and keep comfortable for breathing.  
 Call a poison center or doctor if you feel unwell.  
 If skin irritation occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or regular foam to extinguish.

**Storage:** Store in a well-ventilated place. Keep container tightly closed.  
 Keep cool.  
 Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200). This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Petroleum	Not available.	8002-05-9	100
Nonane	Not available.	111-84-2	0.1 - 7
Octane	Not available.	111-65-9	0.1 - 7
Heptane	Not available.	142-82-5	0.1 - 7
Hexane	Not available.	110-54-3	1 - 5
Pentane	Not available.	109-66-0	0.5 - 5
Benzene, dimethyl-	Xylene	1330-20-7	0.1 - 5
Benzene	Not available.	71-43-2	0 - 1
Benzene, methyl-	Toluene	108-88-3	0.1 - 5
Benzene, ethyl-	Ethylbenzene	100-41-4	0 - 1
Polycyclic Aromatic Hydrocarbons	Not available.	130498-29-2	Variable.
Hydrogen sulfide (H <sub>2</sub> S)	Hydrogen sulphide	7783-06-4	< 0.0001

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

**Acute and delayed symptoms and effects:** May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and

throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Acute and delayed symptoms and effects:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

## Section 5: FIRE-FIGHTING MEASURES

### FLAMMABILITY AND EXPLOSION INFORMATION

Extremely flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. When heated, this material may evolve toxic and flammable Hydrogen sulphide.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** Take precautionary measures against static discharge. This material is sensitive to static discharge.

#### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Do not use straight streams. CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Products of Combustion:** Oxides of carbon. Oxides of sulphur. Aldehydes.

**Protection of Firefighters:** Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

#### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Don full-face, positive pressure, self-contained breathing apparatus.

**Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.

**Methods for Containment:** Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE****Handling:**

Do not swallow. Do not breathe mist, vapours, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Head spaces in storage containers may contain toxic hydrogen sulphide gas. Structural materials and lighting and ventilation systems should be corrosion resistant.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Guidelines****Component**

Petroleum [CAS No. 8002-05-9]

**ACGIH:** No TLV established.

**OSHA:** 500 ppm (TWA), 2000 mg/m<sup>3</sup> (TWA);  
400 ppm (TWA) [Vacated];

Nonane [CAS No. 111-84-2]

**ACGIH:** 200 ppm (TWA); (2011)

**OSHA:** 200 ppm (TWA) [Vacated];

Octane [CAS No. 111-65-9]

**ACGIH:** 300 ppm (TWA); (1979)

**OSHA:** 500 ppm (TWA), 2350 mg/m<sup>3</sup> (TWA);  
300 ppm (TWA); 375 ppm (STEL) [Vacated];

Heptane [CAS No. 142-82-5]

**ACGIH:** 400 ppm (TWA); 500 ppm (STEL); (1979)

**OSHA:** 500 ppm (TWA), 2000 mg/m<sup>3</sup> (TWA);  
400 ppm (TWA); 500 ppm (STEL) [Vacated];

Hexane [CAS No. 110-54-3]

**ACGIH:** 50 ppm (TWA); Skin, BEI (1996)

**OSHA:** 500 ppm (TWA), 1800 mg/m<sup>3</sup> (TWA); Skin.  
50 ppm (TWA) [Vacated];

Pentane [CAS No. 109-66-0]

**ACGIH:** 1000 ppm (TWA); (2013)

**OSHA:** 1000 ppm (TWA), 2950 mg/m<sup>3</sup> (TWA);  
600 ppm (TWA); 750 ppm (STEL) [Vacated];

Xylene [CAS No. 1330-20-7]

**ACGIH:** 100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)

**OSHA:** 100 ppm (TWA), 435 mg/m<sup>3</sup> (TWA);  
150 ppm (STEL) [Vacated]

Benzene [CAS No. 71-43-2]

**ACGIH:** 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)

**OSHA:** 1 ppm (TWA); 5 ppm (STEL);

Toluene [CAS No. 108-88-3]

**ACGIH:** 20 ppm (TWA); OTO; A4; BEI (2020)

**OSHA:** 200 ppm (TWA); 300 ppm (C); 500 ppm (Peak) (Maximum duration: 10 minutes.)  
100 ppm (TWA); 150 ppm (STEL) [Vacated];

Ethylbenzene [CAS No. 100-41-4]

**ACGIH:** 20 ppm (TWA); A3; BEI (2010)

**OSHA:** 100 ppm (TWA), 435 mg/m<sup>3</sup> (TWA);  
125 ppm (STEL) [Vacated];

Polycyclic Aromatic Hydrocarbons [CAS No. 130498-29-2]

**ACGIH:** A2; BEI; Exposure by all routes should be carefully controlled to levels as low as possible (1990); For Benz[a]anthracene

**OSHA:** 0.2 mg/m<sup>3</sup> (TWA); For benzene-soluble fraction.

Hydrogen sulphide [CAS No. 7783-06-4]

**ACGIH:** 1 ppm (TWA); 5 ppm (STEL); (2009)

**OSHA:** 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.)  
10 ppm (TWA); 15 ppm (STEL) [Vacated]

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**TWA:** Time-Weighted Average

**STEL:** Short-Term Exposure Limit

**C:** Ceiling

### Engineering Controls:

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)



#### Eye/Face Protection:

Wear safety glasses. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

#### Hand Protection:

Wear protective gloves. Consult manufacturer specifications for further information.



<b>Skin and Body Protection:</b>	Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.
<b>Respiratory Protection:</b>	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
<b>General Hygiene Considerations:</b>	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Brown liquid.
<b>Colour:</b>	Brown.
<b>Odour:</b>	Petroleum.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Liquid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	< 35 °C (95 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	< -20.5 °C (-4.9 °F) (ASTM D7236 / D3828B)
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	< 103 kPa at 37.8 °C (100 °F) (ASTM D6377)
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	0.9 to 1 (Water = 1) at 15 °C (59 °F) (calculated)
<b>Solubilities:</b>	Insoluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.



# Heavy Crude Oil, UN1267 PG I, Non-toxic

Date of Preparation: January 12, 2021

## SAFETY DATA SHEET

<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	40 to 75 cSt at 40 °C (104 °F) (ASTM D7042)
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	900 to 1000 kg/m <sup>3</sup> at 15 °C (59 °F) (ASTM D5002)
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

### Section 10: STABILITY AND REACTIVITY

<b>Reactivity:</b>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<b>Incompatible Materials:</b>	Strong oxidizers.
<b>Hazardous Decomposition Products:</b>	Not available.

### Section 11: TOXICOLOGICAL INFORMATION

#### EFFECTS OF ACUTE EXPOSURE

##### Product Toxicity

<b>Oral:</b>	Not available.
<b>Dermal:</b>	Not available.
<b>Inhalation:</b>	Not available.

##### Component Toxicity

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Petroleum	8002-05-9	4300 mg/kg (rat)	Not available.	Not available.
Nonane	111-84-2	Not available.	Not available.	3200 ppm (rat); 4H
Octane	111-65-9	Not available.	Not available.	118000 mg/m <sup>3</sup> (rat); 4H
Heptane	142-82-5	Not available.	Not available.	103000 mg/m <sup>3</sup> (rat); 4H
Hexane	110-54-3	25000 mg/kg (rat)	Not available.	48000 ppm (rat); 4H
Pentane	109-66-0	400 mg/kg (rat)	Not available.	364000 mg/m <sup>3</sup> (rat); 4H
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Toluene	108-88-3	2600 mg/kg (rat)	14.1 mL/kg (rabbit)	49000 mg/m <sup>3</sup> (rat); 4H
Ethylbenzene	100-41-4	3500 mg/kg (rat)	17800 µL/kg (rabbit)	Not available.

**SAFETY DATA SHEET**

Polycyclic Aromatic Hydrocarbons	130498-29-2	Not available.	Not available.	Not available.
Hydrogen sulphide	7783-06-4	Not available.	Not available.	444 ppm (rat); 4H

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Reproductive system. Central nervous system. Peripheral nervous system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Kidneys. Reproductive system. Central nervous system. Peripheral nervous system.

**Chronic Effects:** Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. Repeated dermal application of crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow. Prolonged or repeated skin contact with Nonane may cause liver and kidney damage and cause blood effects. Chronic inhalation of n-Hexane may cause peripheral nerve disorders and central nervous system effects.

Reports of chronic poisoning with Benzene, Toluene, Ethylbenzene or Xylene describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapour may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. This product contains Polycyclic Aromatic Hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumours, anemia, disorders of the liver, bone marrow and lymphoid tissues. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation; and damage to cardiovascular system.

**Carcinogenicity:** May cause cancer. Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumours in animals following prolonged and repeated skin contact. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

**Component Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Petroleum	Not listed.	Group 3	Not listed.	OSHA Carcinogen.	Not listed.
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Toluene	A4	Group 3	Not listed.	Not listed.	Not listed.
Ethylbenzene	A3	Group 2B	Not listed.	OSHA Carcinogen.	Listed.
Polycyclic Aromatic Hydrocarbons	A2	Not listed.	List 2	OSHA Carcinogen.	Listed.

**Mutagenicity:** May cause genetic defects.

**Reproductive Effects:** Suspected of damaging fertility or the unborn child. Studies exist which report a link to crude oil and reproductive effects including menstrual disorders.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Possible risk of harm to the unborn child. Repeated dermal application of crude oils to pregnant rats produced maternal toxicity and fetal developmental toxicity and fetal tumours. Benzene and Xylene have caused adverse fetal effects in laboratory animals. Exposure to Toluene may affect the developing fetus.

**Toxicologically Synergistic Materials:** Xylene reacts synergistically with n-hexane to enhance hearing loss.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.  
**Mobility in Environment:** Not available.  
**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION****U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** UN1267, PETROLEUM CRUDE OIL, 3, PG I  
**Class:** 3  
**UN Number:** UN1267  
**Packing Group:** I  
**Label Code:**

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** UN1267, PETROLEUM CRUDE OIL, 3, PG I  
**Class:** 3  
**UN Number:** UN1267  
**Packing Group:** I  
**Label Code:**

**Section 15: REGULATORY INFORMATION****Chemical Inventories****US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations****United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.



# Heavy Crude Oil, UN1267 PG I, Non-toxic

SAFETY DATA SHEET

Date of Preparation: January 12, 2021

## SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Hexane	Not listed.	Not listed.	5000	313	Not listed.	Not listed.
Pentane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Toluene	Not listed.	Not listed.	1000	313	U220	Not listed.
Ethylbenzene	Not listed.	Not listed.	1000	313	Not listed.	Not listed.
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Polycyclic Aromatic Hydrocarbons	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.
Hydrogen sulphide	500	100	100	313	U135	10000

## State Regulations

### Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Petroleum	8002-05-9	Listed.
Nonane	111-84-2	Listed.
Octane	111-65-9	Listed.
Heptane	142-82-5	Listed.
Hexane	110-54-3	Listed.
Pentane	109-66-0	Listed.
Xylene	1330-20-7	Listed.
Benzene	71-43-2	E
Toluene	108-88-3	Listed.
Ethylbenzene	100-41-4	Listed.
Xylene	1330-20-7	Listed.
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.
Hydrogen sulphide	7783-06-4	E

Note: E = Extraordinarily Hazardous Substance

### New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Petroleum	8002-05-9	SHHS
Nonane	111-84-2	SHHS
Octane	111-65-9	SHHS
Heptane	142-82-5	SHHS
Hexane	110-54-3	SHHS
Pentane	109-66-0	SHHS

Xylene	1330-20-7	SHHS
Benzene	71-43-2	SHHS
Toluene	108-88-3	SHHS
Ethylbenzene	100-41-4	SHHS
Hydrogen sulphide	7783-06-4	SHHS

**Note:** SHHS = Special Health Hazard Substance

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Petroleum	8002-05-9	Listed.
Nonane	111-84-2	Listed.
Octane	111-65-9	Listed.
Heptane	142-82-5	Listed.
Hexane	110-54-3	Listed.
Pentane	109-66-0	Listed.
Xylene	1330-20-7	E
Benzene	71-43-2	ES
Toluene	108-88-3	E
Ethylbenzene	100-41-4	E
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.
Hydrogen sulphide	7783-06-4	E

**Note:** E = Environmental Hazard; S = Special Hazardous Substance

**California****California Prop 65:**

**WARNING** This product can expose you to chemicals including n-Hexane, Toluene, Benzene, Ethylbenzene, Naphthalene, and Polycyclic Aromatic Hydrocarbons which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Section 16: OTHER INFORMATION**
**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

**Date of Preparation of SDS:** January 12, 2021

**Version:** 1.3

**GHS SDS Prepared by:** Deerfoot Consulting Inc.

**Phone: (403) 720-3700**



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name : Bakken Blend  
Product Name : Bakken Blend  
CAS Number : 8002-05-9  
Synonyms : Crude Oil  
Earth Oil  
Petroleum Oil  
Rock Oil

Company Name : Inland Crude Purchasing LLC  
1675 Broadway #1600  
Denver, CO 80202  
1.877.257.5793

Emergency Contacts : Chemtrec 800.424.9300

Validation Date : 2/24/2014

### 2. HAZARD IDENTIFICATION

#### Classification

Flammable liquid : Category 1  
Carcinogen : Category 1B  
Target organ toxicant (central nervous system) : Category 3  
Target organ toxicant (repeated exposure) : Category 2  
Aspiration toxicant : Category 1  
Chronic aquatic toxicant : Category 3

#### Label Symbol



Signal Word : Danger

#### Hazard Statements

Physical H225: Highly flammable liquid and vapour  
Health H350: May cause cancer  
H336: May cause drowsiness or dizziness  
H373: May cause damage to organs through prolonged or repeated exposure.  
H304: May be fatal if swallowed and enters airways  
H402: Harmful to aquatic life



## Precautionary Statements

Prevention P201: Obtain special instructions before use

P202: Do not handle until all safety precautions have been read and understood

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P233: Keep container tightly closed

P240: Ground/bond container and receiving equipment

P241: Use explosion-proof electrical/ventilating/light/.../equipment

P242: Use only non-sparking tools

P243: Take precautionary measures against static discharge

P260: Do not breathe dust/fume/gas/mist/vapours/spray

P271: Use only outdoors or in a well-ventilated area

P273: Avoid release to the environment

P280: Wear protective gloves/protective clothing/eye protection/face protection

P281: Use personal protective equipment as required

Response P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P308+313: IF exposed or concerned: Get medical advice/attention

P312: Call a POISON CENTER or doctor/physician if you feel unwell

P331: Do NOT induce vomiting

P370+378: In case of fire: Use water spray or foam for extinction

Storage P403+233: Store in a well ventilated place. Keep container tightly closed

P403+235: Store in a well ventilated place. Keep cool

Keep stored in container with limited access.

Disposal P501: Dispose of contents and container in accordance with local regulations

Contains Crude Oil (Petroleum Distillates)

Benzene

n-Hexane

1,2,4-Trimethylbenzene

Xylene (mixed isomers)

Cyclohexane

n-Pentane

n-Butane

Physical/Chemical Hazards

Material can accumulate static charges which may cause an incendiary electrical discharge. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

**Health Hazards**

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, is expected to be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Repeated exposure may cause skin dryness or cracking. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression. Prolonged and repeated exposure to benzene may cause serious injury to blood forming organs and is associated with anemia and to the later development of acute myelogenous leukemia (AML).

**Environmental Hazards**

No additional hazards

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS No.	Concentration*	GHS Hazard Codes
Crude Oil (Petroleum Distillates)	8002-05-9	100%	H225, H304, H336, H350(1B), H373, H402
Benzene	71-43-2	<1%	H225, H303, H304, H336, H340(1B), H350(1A), H315, H319(2A), H372
n-Hexane	110-54-3	<10%	H225, H304, H336, H361(F), H315, H372, H411
1,2,4-Trimethylbenzene	95-63-6	<1%	H224, H313, H315, H332, H335, H336
Xylene (mixed isomers)	108-38-3	<1%	H226, H303, H304, H333, H335, H336, H316, H320(2B), H373
Cyclohexane	110-82-7	<1%	H225, H304, H336, H315, H410
n-Pentane	109-66-0	<10%	H225, H304, H320, H335, H336, H401
n-Butane	106-97-8	<10%	H220, H280

\* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

### 4. FIRST-AID MEASURES

**Eye Contact**

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Seek medical attention

**Skin Contact**

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water. If irritation or redness develops, seek medical attention.

**Inhalation**

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

## Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material, which enter the mouth, should be rinsed out until the taste is dissipated. Never give anything by mouth to an unconscious person. Get medical attention.

**5. FIRE-FIGHTING MEASURES**

## Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, carbon dioxide, firefighting foam, or Halon. Use water spray to cool exposed materials. LARGE FIRES: Fog or firefighting foam recommended. Water spray may be ineffective for fighting fires, but may be used to cool fire-exposed materials and structures. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

## Fire Fighting Measures

This product is an OSHA and NFPA Class 1B Flammable Liquid. Vapors may ignite rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, vapors can burn in the open or explode in confined spaces. Vapors may travel long distances to an ignition source and flashback. Vapors are heavier than air and may accumulate in low areas. Runoff to sewer may lead to fire or explosion hazard.

Protective equipment and precautions for firefighters - Water maybe ineffective on flames and may even spread the fire but should be used to cool containers in the fire.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Incipient stage fires may be extinguished using handheld portable fire extinguishers and other firefighting equipment. Isolate area surrounding fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For large fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

Hazardous combustion products Sodium oxides. Carbon oxides.

**6. ACCIDENTAL RELEASE MEASURES**

ACTIVATE FACILITY'S SPCC, SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Stay upwind and, when possible, uphill. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Do not touch or walkthrough spilled material. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking or using absorbents/ absorbent booms. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 11). Local, state, and / or Federal notification may be required if this material is released to the environment (see Section 15 for additional information).

**7. HANDLING AND STORAGE**

- Handling** Comply with all EPA, OSHA, DOT, NFPA and consistent state and local requirements. Handle as a flammable liquid. Keep away from heat, sparks, and open flame. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce potential for static-initiated fire or explosion. Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as gasoline) is loaded into tanks previously containing low flash point products - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents.
- Storage** Keep away from flame, sparks, and excessive temperatures. Use approved vented containers. Keep containers closed and clearly labeled. Label all secondary containers with the chemical name and associated hazard(s). Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat or weld containers. Do not expose containers to sources of ignition. Ground all drums and vessels when handling. All electrical equipment in storage and/or handling areas should be installed in accordance with applicable requirements of the National Electrical Code (NEC). Store in a well-ventilated area. Protect containers from damage and vehicular traffic. Post "No Smoking" signs in product storage areas. Storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

## Exposure limit values

Name	CAS No.	Standard	Limit
Crude Oil (Petroleum Distillates)	8002-05-9	OSHA PEL	500 ppm
Benzene	71-43-2	OSHA STEL	10 ppm
n-Hexane	110-54-3	OSHA PEL	500 ppm
1,2,4-Trimethylbenzene	95-63-6	OSHA PEL	None
Xylene (mixed isomers)	108-38-3	OSHA PEL	100 ppm
Cyclohexane	110-82-7	OSHA PEL	300 ppm
n-Pentane	109-66-0	OSHA PEL	1000 ppm
n-Butane	106-97-8	OSHA PEL	None

## Engineering controls

Use adequate local or general ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits. Electrical equipment should comply with National Electrical Code (NEC) standards.

## Personal protection

## Eye / face protection

Avoid contact with eyes. Safety glasses with side shields or goggles or face shield are recommended where there is a possibility of splashing or spraying. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

## Skin protection

Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The breakthrough performance of materials may vary between products, based on degree of exposure. Consult manufacturer specifications for further information.

**Respiratory protection**

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges/ canisters should be used where airborne concentrations are, or may be expected to be, above exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the respirator manufacturer for additional guidance on respiratory protection selection. Self-contained breathing apparatus should be used for fire fighting. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****General information**

Physical state	: Liquid
Color	: Amber to black viscous liquid
Odor	: Hydrocarbon odor
Odor threshold	: NA

**Important health, safety, and environmental information**

Melting point	: NA
Freezing point	: NA
Boiling range	: <78 °F
Flash point	: Variable <30°F, organic oil and dissolved gases are flammable
Explosive limit	: 0.4% (LEL) – 15% (UEL)
Evaporation rate	: Slow, varies with conditions
Vapor pressure	: 9.4 - 14.9 psi (Reid Vapor Pressure)
Vapor density	: 1.5 - 3.0
Specific gravity	: 0.8 - 1.0
Solubility (water)	: 0.01 - 0.05

**10. STABILITY AND REACTIVITY****Stability**

Stable under normal ambient conditions. Hazardous polymerization will not occur under normal conditions of

**Conditions to avoid**

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

**Materials to avoid**

Keep away from oxidizing materials; such as nitrates, chlorates, peroxides.

**Hazardous decomposition products**

Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.

**Possibility of hazardous reactions**

Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION**

## Components Test Results

Crude Oil (8002-05-9)	Acute Oral	Toxicity (Rat)	LD50> 5 g/Kg
Crude Oil (8002-05-9)	Acute Other	Toxicity (Rabbit)	LD50> 2 ml/Kg

**12. ECOLOGICAL INFORMATION**

The information given is based on data available for the material, the components of the material, and similar materials.

## Ecotoxicity

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

TEST & SPECIES	CONDITIONS		
<b>Crude Oil (Petroleum Distillates 8002-05-9)</b>			
96 Hr. LC50 Salmo gairdneri	258	mg/L	[static]
24 Hr. EC50 Daphnia magna	36	mg/L	
48 Hr. EC50 Daphnia magna	<0.26	mg/L	[static]
<b>Benzene (71-43-2)</b>			
96 Hr. LC50 Pimephales promelas	10.7-14.7	mg/L	[flow-through]
96 Hr. LC50 Oncorhynchus mykiss	5.3	mg/L	[flow-through]
96 Hr. LC50 Lepomis macrochirus	22.49	mg/L	[static]
96 Hr. LC50 Poecilia reticulata	28.6	mg/L	[static]
96 Hr. LC50 Pimephales promelas	22330-41160	µg/L	[static]
96 Hr. LC50 Lepomis macrochirus	70000-142000	µg/L	[static]
72 Hr. EC50 Pseudokirchneriella subcapitata	29	mg/L	
48 Hr. EC50 Daphnia magna	8.76-15.6	mg/L	[static]
48 Hr. EC50 Daphnia magna	10	mg/L	

## Mobility

No information available.

## Persistence and degradability

No information available.

## Bioaccumulation potential

No information available.

**13. DISPOSAL CONSIDERATIONS**

## Disposal

Although this material does not specifically meet the definition of a RCRA hazardous waste, it may be considered hazardous for disposal, as it displays a characteristic of hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options. Do not allow this material to drain into sewers/water supplies.

**14. TRANSPORT INFORMATION**

## Land (ADR)

Proper shipping name : Petroleum crude oil  
 Hazard class : 3  
 UN number : 1267  
 Packing group : I  
 Emergency response guidebook number : 128  
 Transport Document Name : UN1267 Petroleum crude oil, 3, I  
 Label(s) / Mark(s) : Flammable liquid

## Sea (IMDG)

Proper shipping name : Petroleum crude oil  
 Hazard class : 3  
 UN number : 1267  
 Packing group : I  
 Emergency response guidebook number : 128  
 Marine Pollutant : No  
 Transport Document Name : Petroleum crude oil , 3, UN1267, PG I, (21°C c.c.)  
 Label(s) / Mark(s) : Flammable liquid

## Air (IATA)

Proper shipping name : Petroleum crude oil  
 Hazard class : 3  
 UN number : 1267  
 Packing group : I  
 Emergency response guidebook number : 128  
 Transport Document Name : Petroleum crude oil , 3, UN1267, PG I  
 Label(s) / Mark(s) : Flammable liquid

**15. REGULATORY INFORMATION**

## US federal, state and/or local regulations

## RCRA Information

This product may be recycled. If disposed, this product is considered an ignitable hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options.

## Clean Water Act (Oil Spills)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

## CERCLA Section 103 And Sara Section 304 (Release To The Environment)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause that exempts crude oil, refined and unrefined petroleum products, and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

## SARA Section 302 Extremely Hazardous Substances

This material does not contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

SARA Section 311/312 - Hazard Categories: Acute Health Chronic Health Fire Sudden Release of Pressure  
Reactive Immediate Delayed X

This material is subject to the reporting requirements of Section 311-312 of the Emergency Planning and Community Right to Know Act (EPCRA) if stored at quantities in excess of 10,000 pounds at any one time.

### SARA Section 313 - Supplier Notification

This product contains the following toxic substances subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. See Section 2 for composition, CAS numbers, and exposure limit information.

### EPA Notification (Oil Spills)

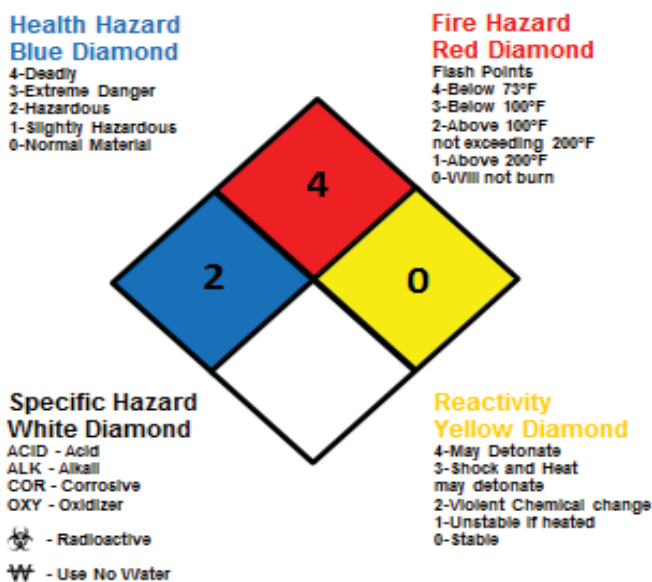
If there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event

### Drug Enforcement Agency (DEA)

Not controlled

## 16. OTHER INFORMATION

### National Fire Protection Hazard Diamond



### Key/Legend

NA = Not available

This Safety Data Sheet contains the following revisions

2/24/2014 - Updates made in accordance with implementation of GHS requirements.





**Section 1: IDENTIFICATION**

**Product Name:** Dilbit (Sunrise)  
**Synonyms:** Not available.  
**Product Use:** Refinery feedstock.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Husky Oil Operations Ltd.  
707 – 8th Avenue S.W.  
PO Box 6525 Station 'D'  
Calgary, Alberta  
**Phone Number:** 403-298-6111  
**Emergency Phone:** 403-262-2111  
**Date of Preparation of SDS:** July 25, 2019

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Flammable Liquids, Category 1  
Acute Toxicity - Inhalation, Category 2  
Skin Irritation, Category 2  
Eye Irritation, Category 2B  
Germ Cell Mutagenicity, Category 1B  
Carcinogenicity, Category 1A  
Reproductive Toxicity, Category 2  
Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects  
Specific Target Organ Toxicity (Repeated Exposure), Category 2

**LABEL ELEMENTS**

**Hazard Pictogram(s):** 

**Signal Word:** Danger

**Hazard Statements:** Extremely flammable liquid and vapor.  
Fatal if inhaled.  
Causes skin irritation.  
Causes eye irritation.  
May cause genetic defects.  
May cause cancer.  
Suspected of damaging fertility or the unborn child.  
May cause drowsiness or dizziness.  
May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.



Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
 Keep container tightly closed.  
 Ground/bond container and receiving equipment.  
 Use explosion-proof electrical, ventilating, and lighting equipment.  
 Use only non-sparking tools.  
 Take precautionary measures against static discharge.  
 Do not breathe mist, vapours, or spray.  
 Wash thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Wear protective gloves, protective clothing and eye protection.  
 Wear respiratory protection.

**Response:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 Immediately call a POISON CENTER or doctor.  
 If skin irritation occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

**Storage:** Store in a well-ventilated place. Keep container tightly closed.  
 Keep cool.  
 Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** 100% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Bitumen	Asphalt	8052-42-4	60 - 100
Natural gas condensates (petroleum)	Not available.	64741-47-5	15 - 40
Sulfur	Sulphur	7704-34-9	3 - 7
Hexane	Not available.	110-54-3	1 - 5
Benzene, dimethyl-	Xylene	1330-20-7	1 - 5
Benzene	Not available.	71-43-2	0.1 - 1
Benzene, methyl-	Toluene	108-88-3	0.1 - 1
Benzene, ethyl-	Ethylbenzene	100-41-4	0.1 - 1



Hydrogen sulfide (H <sub>2</sub> S)	Hydrogen sulphide	7783-06-4	Variable
Polycyclic Aromatic Hydrocarbons	Not available.	130498-29-2	variable

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.

**Acute and delayed symptoms and effects:** Fatal if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Acute and delayed symptoms and effects:** Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H<sub>2</sub>S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

**Skin Contact:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Acute and delayed symptoms and effects:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.



**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

### Section 5: FIRE-FIGHTING MEASURES

#### FLAMMABILITY AND EXPLOSION INFORMATION

Extremely flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. When heated, this material may evolve toxic and flammable Hydrogen sulphide.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** Take precautionary measures against static discharge. This material is sensitive to static discharge.

#### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Do not use straight streams. CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Products of Combustion:** Oxides of carbon. Oxides of sulphur.

**Protection of Firefighters:** Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.



**Section 6: ACCIDENTAL RELEASE MEASURES**

- Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.
- Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Don full-face, positive pressure, self-contained breathing apparatus.
- Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.
- Methods for Containment:** Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.
- Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.
- Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Do not breathe mist, vapours, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Keep storage area separate from populated work areas. Consider leak detection and alarm systems, as required. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Head spaces in storage containers may contain toxic hydrogen sulphide gas. Structural materials and lighting and ventilation systems should be corrosion resistant.



**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Bitumen [CAS No. 8052-42-4]

**ACGIH:** 0.5 mg/m<sup>3</sup> (TWA); A4; BEI; Inhalable fraction; For Asphalt (Bitumen) fume, as benzene-soluble aerosol

**OSHA:** No PEL established.

Natural gas condensates (petroleum) [CAS No. 64741-47-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Sulphur [CAS No. 7704-34-9]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Hexane [CAS No. 110-54-3]

**ACGIH:** 50 ppm (TWA); Skin, BEI (1996)

**OSHA:** 500 ppm (TWA), 1800 mg/m<sup>3</sup> (TWA); Skin. 50 ppm (TWA) [Vacated];

Xylene [CAS No. 1330-20-7]

**ACGIH:** 100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)

**OSHA:** 100 ppm (TWA), 435 mg/m<sup>3</sup> (TWA); 150 ppm (STEL) [Vacated];

Benzene [CAS No. 71-43-2]

**ACGIH:** 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)

**OSHA:** 1 ppm (TWA); 5 ppm (STEL);

Toluene [CAS No. 108-88-3]

**ACGIH:** 20 ppm (TWA); A4; BEI (2006)

**OSHA:** 200 ppm (TWA); 300 ppm (C); 500 ppm (Peak) (Maximum duration: 10 minutes.) 100 ppm (TWA); 150 ppm (STEL) [Vacated];

Ethylbenzene [CAS No. 100-41-4]

**ACGIH:** 20 ppm (TWA); A3; BEI (2010)

**OSHA:** 100 ppm (TWA), 435 mg/m<sup>3</sup> (TWA); 125 ppm (STEL) [Vacated];

Hydrogen sulphide [CAS No. 7783-06-4]

**ACGIH:** 1 ppm (TWA); 5 ppm (STEL); (2009);

**OSHA:** 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.) 10 ppm (TWA); 15 ppm (STEL) [Vacated];



Polycyclic Aromatic Hydrocarbons [CAS No. 130498-29-2]

**ACGIH:** A2; BEI; Exposure by all routes should be carefully controlled to levels as low as possible (1990); For Benz[a]anthracene

**OSHA:** 0.2 mg/m<sup>3</sup> (TWA); For benzene-soluble fraction.

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**TWA:** Time-Weighted Average

**STEL:** Short-Term Exposure Limit

**C:** Ceiling

**Engineering Controls:**

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

**Respiratory Protection:**

Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.



**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Dark liquid.
<b>Colour:</b>	Brown to black.
<b>Odour:</b>	Petroleum. Rotten eggs.
<b>Odour Threshold:</b>	0.0047 ppm (Hydrogen sulphide)
<b>Physical State:</b>	Liquid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	≤ 35 °C (95 °F)
<b>Flash Point:</b>	≤ 23 °C (74 °F)
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	0.900 to 1.000 (Water = 1) at 20 °C (68 °F) (calculated)
<b>Solubilities:</b>	Insoluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	70 to 80 cSt at 40 °C (104 °F) (calculated)
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	0.900 to 1.000 kg/L at 20 °C (68 °F) (calculated)
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.





**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Sources of ignition. Exposure to heat.

**Incompatible Materials:** Strong acids. Strong oxidizers. Halogens.

**Hazardous Decomposition Products:** Hazardous sulphur dioxide, and related oxides of sulphur may be generated upon combustion.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Bitumen	8052-42-4	Not available.	Not available.	Not available.
Natural gas condensates (petroleum)	64741-47-5	Not available.	Not available.	600 mg/m <sup>3</sup> (rat); 4H
Sulphur	7704-34-9	> 8437 mg/kg (rat)	Not available.	Not available.
Hexane	110-54-3	25000 mg/kg (rat)	Not available.	48000 ppm (rat); 4H
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Toluene	108-88-3	2600 mg/kg (rat)	14.1 mL/kg (rabbit)	49000 mg/m <sup>3</sup> (rat); 4H
Ethylbenzene	100-41-4	3500 mg/kg (rat)	17800 µL/kg (rabbit)	Not available.
Hydrogen sulphide	7783-06-4	Not available.	Not available.	444 ppm (rat); 4H
Polycyclic Aromatic Hydrocarbons	130498-29-2	Not available.	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Central nervous system. Peripheral nervous system.



**Symptoms (including delayed and immediate effects)**

**Inhalation:** Fatal if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death.

**Eye:** Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H<sub>2</sub>S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

**Skin:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Spleen. Liver. Kidneys. Reproductive system. Central nervous system. Peripheral nervous system.

**Chronic Effects:** Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. At relatively low concentrations, Natural gas condensate may result in chronic hypoxia including effects such as decreased night vision, increased respiration, decreased alertness, fatigue, tunnel vision and headache. Other potential chronic effects include peripheric neuropathy and blurred vision, aplastic anemia, acute myoblastic leukemia, bone marrow depression, corneal vacuolization erythroleukemia and even death. Chronic inhalation of n-Hexane may cause peripheral nerve disorders and central nervous system effects. Reports of chronic poisoning with Benzene, Toluene, Ethylbenzene or Xylene describe



anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapour may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation: damage to cardiovascular system. This product contains Polycyclic Aromatic Hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumours, anemia, disorders of the liver, bone marrow and lymphoid tissues.

**Carcinogenicity:** May cause cancer. Long-term or repeated exposures to Bitumen fumes are possibly carcinogenic to humans. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

**Component Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Bitumen	A4	Group 2B	Not listed.	OSHA Carcinogen.	Listed.
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Toluene	A4	Group 3	Not listed.	Not listed.	Not listed.
Ethylbenzene	A3	Group 2B	Not listed.	OSHA Carcinogen.	Listed.
Polycyclic Aromatic Hydrocarbons	A2	Not listed.	List 2	OSHA Carcinogen.	Listed.

**Mutagenicity:** May cause genetic defects.

**Reproductive Effects:** Suspected of damaging fertility or the unborn child. Benzene exposure has been linked to menstrual changes, spontaneous abortion and still birth.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Possible risk of harm to the unborn child. Benzene and Xylene have caused adverse fetal effects in laboratory animals. Exposure to Toluene may affect the developing fetus.

**Toxicologically Synergistic Materials:** Xylene reacts synergistically with n-hexane to enhance hearing loss.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.



**Husky Energy**

SAFETY DATA SHEET

**Dilbit (Sunrise)**

Date of Preparation: July 25, 2019

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** UN1267, PETROLEUM CRUDE OIL, 3, PG I

**Class:** 3

**UN Number:** UN1267

**Packing Group:** I

**Label Code:**



Danger, Possible Hydrogen Sulfide Inhalation Hazard

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** UN1267, PETROLEUM CRUDE OIL, 3, PG I, Toxic by inhalation

**Class:** 3

**UN Number:** UN1267

**Packing Group:** I

**Label Code:**



Toxic by inhalation

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.



**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

<b>Component</b>	<b>Section 302 (EHS) TPQ (lbs.)</b>	<b>Section 304 EHS RQ (lbs.)</b>	<b>CERCLA RQ (lbs.)</b>	<b>Section 313</b>	<b>RCRA CODE</b>	<b>CAA 112( r ) TQ (lbs.)</b>
Hexane	Not listed.	Not listed.	5000	313	Not listed.	Not listed.
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Toluene	Not listed.	Not listed.	1000	313	U220	Not listed.
Ethylbenzene	Not listed.	Not listed.	1000	313	Not listed.	Not listed.
Hydrogen sulphide	500	100	100	313	U135	10000
Polycyclic Aromatic Hydrocarbons	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Bitumen	8052-42-4	Listed.
Sulphur	7704-34-9	Listed.
Hexane	110-54-3	Listed.
Xylene	1330-20-7	Listed.
Benzene	71-43-2	E
Toluene	108-88-3	Listed.
Ethylbenzene	100-41-4	Listed.
Hydrogen sulphide	7783-06-4	E
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.

**Note:** E = Extraordinarily Hazardous Substance

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Bitumen	8052-42-4	Listed.
Sulphur	7704-34-9	Listed.
Hexane	110-54-3	SHHS
Xylene	1330-20-7	SHHS
Benzene	71-43-2	SHHS
Toluene	108-88-3	SHHS
Ethylbenzene	100-41-4	SHHS
Hydrogen sulphide	7783-06-4	SHHS

**Note:** SHHS = Special Health Hazard Substance



**Husky Energy**

SAFETY DATA SHEET

**Dilbit (Sunrise)**

Date of Preparation: July 25, 2019

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Bitumen	8052-42-4	Listed.
Sulphur	7704-34-9	Listed.
Hexane	110-54-3	Listed.
Xylene	1330-20-7	E
Benzene	71-43-2	ES
Toluene	108-88-3	E
Ethylbenzene	100-41-4	E
Hydrogen sulphide	7783-06-4	E
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.

**Note:** E = Environmental Hazard; S = Special Hazardous Substance

**California**

**California Prop 65:**



**WARNING** This product can expose you to chemicals including Toluene, Benzene, Ethylbenzene, Hexane and Polycyclic Aromatic Hydrocarbons which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** July 25, 2019

**Version:** 2.0

**GHS SDS Prepared by:** Deerfoot Consulting Inc.

**Phone:** (403) 720-3700