

KODIAK SUBAREA CONTINGENCY PLAN

HAZARDOUS MATERIALS SECTION

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HAZMAT: PART ONE - HAZARDOUS MATERIALS SPILL RESPONSE

In the event of a hazardous materials spill in the Kodiak Subarea, **Annex H** of the **Kodiak Island Local Emergency Planning Committee Title III Emergency Response Plan**, which contains hazardous materials planning, training and response information for Kodiak Island, shall supplement the information in this plan. The **Unified Plan, Annex L**, identifies 20 “extremely hazardous substances” present in the State of Alaska in sufficient quantity to pose a threat to human health and the environment. Of those 20 substances, only three are present in the Kodiak Subarea.

Seafood processing is the primary industrial activity in the Kodiak Subarea. Not surprisingly, the three hazardous chemicals which have been identified in the subarea are primarily generated by local seafood processors. In addition to these hazardous materials, there is also an indeterminate amount of hazardous substance scattered throughout the Kodiak Subarea in formerly utilized defense sites (FUDS). However, because the quantities and locations of these substances is unknown, they have not been included in the hazardous materials inventory in this plan.

CHEMICAL INVENTORY

The three types of hazardous chemicals which have been identified in significant quantities in the Kodiak Subarea are **anhydrous ammonia (NH₃)**, **chlorine (Cl₂)**, **sulfuric acid (H₂SO₄)**.

The overwhelming concentration of hazardous chemicals in the Kodiak Subarea is in the City of Kodiak, with smaller amounts identified in Port Lions, Larsen Bay, Alitak Bay cannery, Port Bailey cannery, and Port O’Brien cannery (Uganik Bay). Anhydrous ammonia is present in the greatest quantities, followed by chlorine and sulfuric acid. The seafood processing facilities in the City of Kodiak and remote communities (Port Bailey, Port O’Brien, Larsen Bay, Alitak) are the source of this large quantity of ammonia. Anhydrous ammonia has been identified by ADEC in 14 total facilities in the Kodiak Subarea. Sulfuric acid is present in substantial quantity at one facility located in the City of Kodiak.

Chlorine gas is used for water treatment by the City of Kodiak and most of the seafood processors in the subarea. Consequently, chlorine gas is also present, in smaller amounts, at many of the facilities which contain anhydrous ammonia. Chlorine has been identified in a total of 14 facilities in the Kodiak Subarea. In addition to these three hazardous chemicals which are stored in facilities in the Kodiak Subarea, significant quantities of hazardous substances also move through Kodiak ports and coastal waters. Unfortunately, the transportation of these substances through the subarea is not tracked and it is difficult to identify the specific quantities or types of these hazardous materials. For the purpose of this plan, it is important to recognize that the threat of a hazardous materials release is not limited to those facilities identified.

The Unified Plan, Annex L, contains additional information on the chemical properties, characteristic color and odor of anhydrous ammonia, chlorine, and sulfuric acid. The Unified Plan also discusses the specific threats to human health posed by each substance, and the requisite level of Personal Protective Equipment for handling each substance.

HAZMAT: PART TWO - RISKS ASSOCIATED WITH HAZARDOUS MATERIALS STORAGE AND DISTRIBUTION IN THE KODIAK SUBAREA

The Alaska Department of Environmental Conservation has prepared a document entitled **State and Regional Hazard Profiles** (May 1995), which contains a complete inventory of facilities which store hazardous materials in the Kodiak Subarea and throughout the state. Table G-1 in that document lists all the facilities in the Kodiak Subarea and identifies the type and quantity of hazmat stored at each. The information printed below summarizes the contents of the ADEC Hazard Profiles report. For facility-specific information, consult the report or contact ADEC Division of Spill Prevention and Response at (907) 269-7522.

A. REGIONAL CHEMICAL DISTRIBUTION BY WEIGHT AND FACILITY

SUBSTANCE	COMMUNITY	# FACILITIES IN COMMUNITY	MAX QUANT. IN COMMUNITY (LBS)
NH ₃ -Anhydrous Ammonia	Alitak	1	5000
NH ₃ -Anhydrous Ammonia	Kodiak	10	158250
NH ₃ -Anhydrous Ammonia	Larsen Bay	1	1200
NH ₃ -Anhydrous Ammonia	Port Bailey	1	5000
NH ₃ -Anhydrous Ammonia	Port O'Brien	1	10000
Cl ₂ - Chlorine	Kodiak	12	19300
Cl ₂ - Chlorine	Larsen Bay	1	150
Cl ₂ - Chlorine	Port Lions	1	150
H ₂ SO ₄ - Sulfuric Acid	Kodiak	1	2475

B. CHEMICAL RISKS AND HAZARD FACTORS

While hazardous chemical releases pose an appreciable risk to the environment, hazmat spills also present the potential for serious human injury and loss of life. Therefore, the proximity of hazardous substances to populated areas is an important factor used in determining risk as it relates to hazmat spills and releases.

The **Unified Plan (Annex L)** defines risk as “a function of both the likelihood of a release, and the severity of the consequences.” Risk is considered greatest where the likelihood of a release is highest and the consequences would be most severe. ADEC has used this concept to develop a formula to quantify the risk to communities posed by hazardous materials storage and distribution. The term “hazard factor” is used to identify the “total of the populations in each vulnerable zone for each facility and each chemical.” The hazard factor quantifies risk by taking into account the presence and quantity of a hazardous substance (likelihood of a release) and the population numbers vulnerable to the effects of a hazmat spill (consequence of release). Because a single population may occur within several “vulnerable zones” (in close proximity to several different types of hazardous materials), hazard factors will often exceed total population in a given area.

The chart below summarizes the hazard factors identified by ADEC for the Kodiak Subarea.

Hazard Factors in Kodiak Subarea

COMMUNITY	HAZARD FACTOR		
	<i>Anhydrous Ammonia</i>	<i>Chlorine</i>	<i>Total Hazard Factor</i>
Alitak	7	0	7
City of Kodiak	45,785	26,762	72,547
Larsen Bay	8	27	35
Port Bailey	7	0	7
Port Lions		32	32
Port O'Brien	16	0	16

Hazmat Spill History

There have been relatively few major hazardous materials spills or releases in the Kodiak Subarea. In April, 1997, thirty pounds (30 lbs.) of anhydrous ammonia was released during a fire at the Star of Kodiak fish cannery. Another recent hazmat release occurred from the F/V Northland.

C. HAZARDOUS MATERIALS SPILL RESPONSE

Most hazardous materials releases are short-lived, acute emergencies which present an immediate danger or threat to human health. Because of the short duration of most hazardous materials spills and the concurrent public health risks, the local government is often the ultimate command authority (Incident Commander) during a hazmat response. Safety considerations will generally dictate the course of a hazmat response, with activities such as evacuation prioritized about spill containment and cleanup.

The **Unified Plan, Annex L** provides guidance on hazardous materials response objectives, equipment, capabilities, and federal, state and local resources. The information below supplements the discussion of hazmat response in the Unified plan and is presented only as preliminary guidance for use during a hazmat response in the Kodiak Subarea.

1. Notification And Reporting. In the event of a hazardous materials spill or release in a reportable quantity, the responsible party shall follow the notification procedures outlined in the Response Section of this plan. The facility responsible for the release shall notify the Kodiak ESO, ADEC and the USCG National Response Center, and report the location and time of the discharge; type, quantity and properties of hazardous materials involved, weather conditions, and all other relevant information.

2. Health And Safety. First responders should be especially cautious, and should take appropriate safety precautions until a site safety plan has been implemented. The Incident Commander, based on the advice and recommendations of other on-scene coordinators and facility personnel, should make the determination whether evacuation is warranted. Public evacuation or implementation of the public warning system shall occur following the procedures outlined in the **Kodiak Emergency Operations Plan**.

3. Incident Command. The response shall proceed according to the procedures outlined in the Response Section, following the Incident Command System. As long as there is a threat to public health and safety, the Kodiak Emergency Services Director shall serve as Incident Commander.

4. Response Capabilities In Kodiak, the fire department will often be the primary responder to a hazmat event. In addition to municipal resources, the environmental contractor at the USCG Base in Kodiak is equipped with Level C protection and appropriately trained personnel who may be contacted through the ISC Kodiak to respond to a local hazmat spill. Local priorities during a hazardous materials incident will be to secure the spill site and evacuate adjacent populations as necessary.

ADEC personnel will not respond to a situation unless it requires Level C protection (as defined by EPA standards). State agency roles and response policies are outlined in the **Unified Plan, Annex A**. Statewide Level A Hazmat Teams are available in Fairbanks and Anchorage upon request by the SOSC (per signed agreements with ADEC).