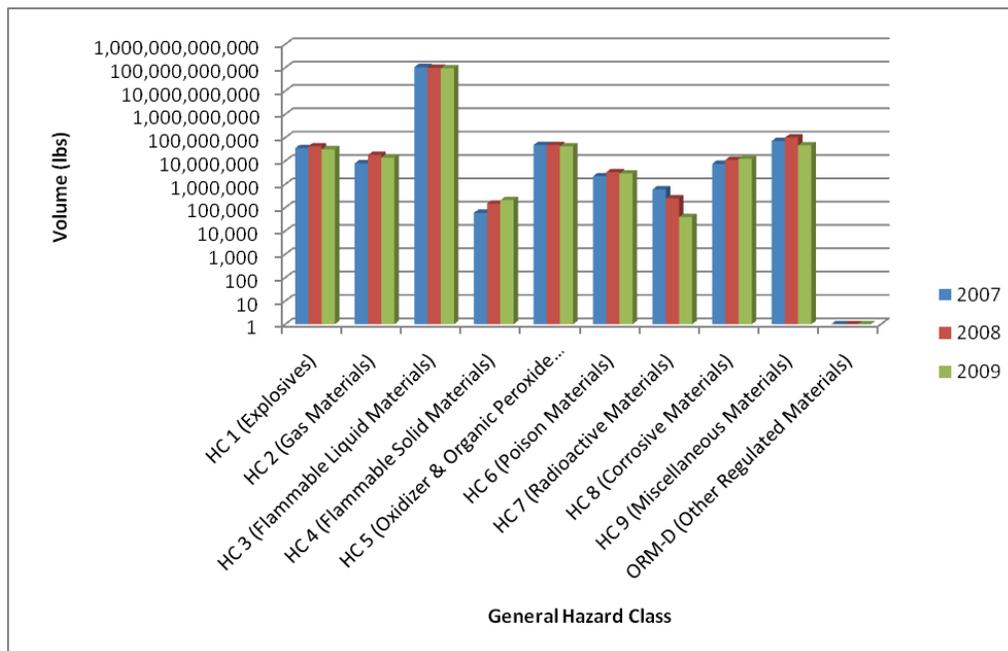


5.10 Interior Alaska

The transportation of hazardous materials through the Interior Alaska Subarea (INT) includes all modes of transportation: air, highway, marine, pipeline and rail. The pipeline and rail modes dominate the volumes shipped as noted previously for the Prince William Sound and Cook Inlet Subareas. Similar to the Cook Inlet Subarea, the transportation infrastructure and central location as a receiver or transshipment point results in large volumes reported across the spectrum of hazard class commodities. The breakdown of hazardous materials volumes from year to year by Hazard Class is depicted in Figure 5-46 below.

Figure 5-46. Volumes of Hazardous Materials Shipped into INT presented on a log scale



In general, HC 3 commodities (Flammable Liquid Materials), specifically Crude Oil dominates the volume of hazardous materials shipped within the INT Subarea by nearly three (3) orders of magnitude. This observation is aligned with the fact that the Trans-Alaska Pipeline passes through this Subarea on its way from the North Slope to Valdez. As this hazard class makes up 99.8% of the total volume shipped, the breakdown of volumes of hazard class shipments within this subarea (inclusive of all hazard classes) in a percentage of subarea-wide volume does not provide any meaningful insight. However, excluding this hazard class provides a general breakdown of the other hazard classes by percentage of the total remaining volume. Figures 5-47, 5-48 and 5-49 depict the breakdown of hazardous material shipments within the INT Subarea by a percentage of total remaining volume shipped. HC 9 (Miscellaneous Materials), HC 5 (Oxidizer & Organic Peroxide Materials) and HC 1 (Explosives) consistently dominate the volume of hazardous materials shipped from year to year.

Figure 5-47. INT Hazardous Materials Percentage of Total Volume by Hazard Class for 2007

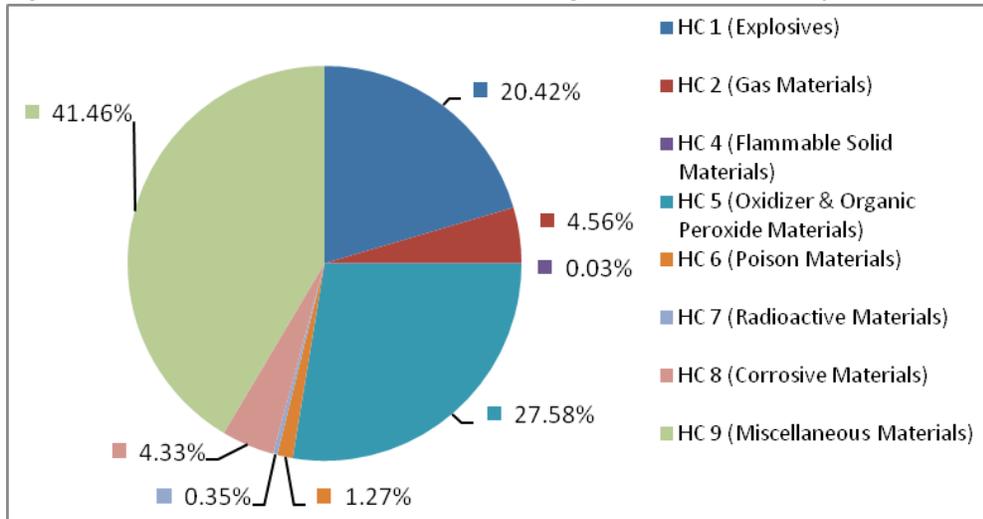


Figure 5-48. INT Hazardous Materials Percentage of Total Volume by Hazard Class for 2008

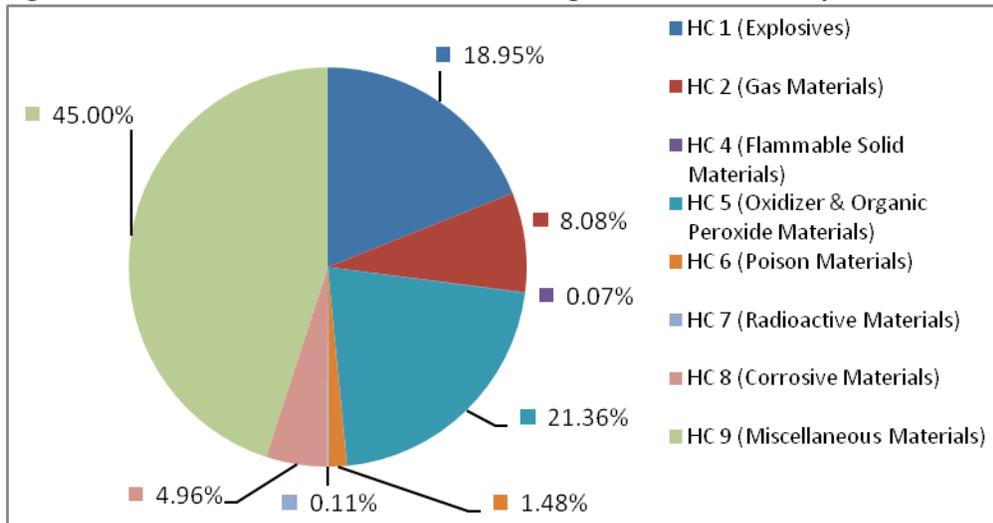


Figure 5-49. INT Hazardous Materials Percentage of Total Volume by Hazard Class for 2009

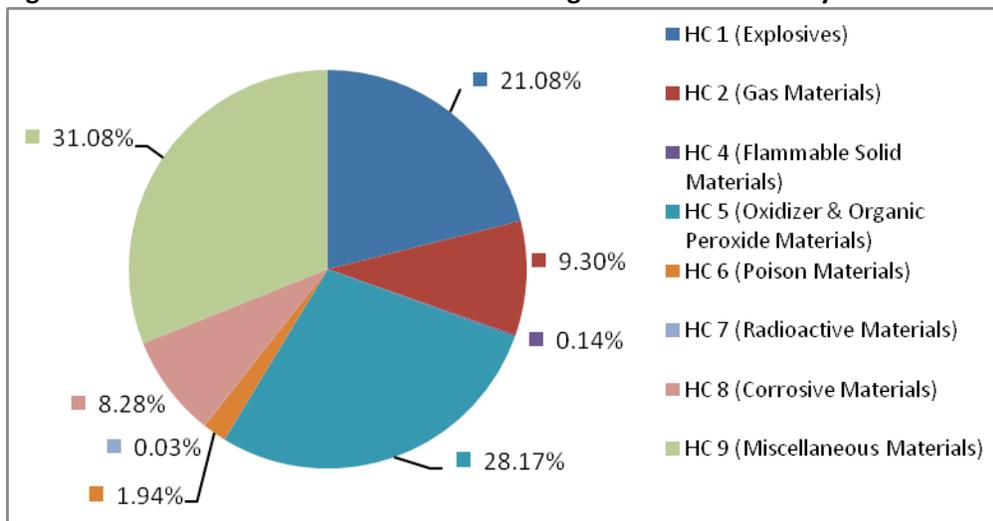


Table 5-73 lists the volume of hazardous materials shipped within the Interior Alaska Subarea by hazard class for each calendar year evaluated for this study.

Table 5-73. Volumes of Hazard Class Transported within INT Subarea by Calendar Year

Hazard Class	2007 (Total Volume in lbs)	2008 (Total Volume in lbs)	2009 (Total Volume in lbs)
HC 1 (Explosives)	35,250,447	42,337,916	31,490,549
HC 2 (Gas Materials)	7,871,310	18,040,563	13,888,474
HC 3 (Flammable Liquid Materials)	104,499,279,833	98,453,107,755	93,374,633,231
HC 4 (Flammable Solid Materials)	59,869	147,672	207,369
HC 5 (Oxidizer & Organic Peroxide Materials)	47,626,734	47,718,173	42,083,109
HC 6 (Poison Materials)	2,193,319	3,300,200	2,895,225
HC 7 (Radioactive Materials)	598,743	247,119	39,171
HC 8 (Corrosive Materials)	7,479,104	11,079,032	12,365,945
HC 9 (Miscellaneous Materials)	71,588,225	100,514,011	46,438,170
ORM-D (Other Regulated Materials)	-	-	-

A more detailed evaluation for each hazard class is provided below. The commodity shipment threshold was established at 500,000 lbs due to the variety and high volumes/shipment of hazmat commodities shipped in this region.

HC 1 Explosives: The explosives transported in the Interior Alaska Subarea covered HCs 1.0, 1.1, 1.2, 1.3, 1.4 and 1.5. Volumes of each HC remained relatively consistent from year to year with the biggest change seen for HC 1.5 where it nearly doubled in volume between 2007 and 2008, and then decreased by half between 2008 and 2009. Table 5-74 lists the primary HC 1 commodities shipped within the Interior Alaska Subarea.

Table 5-74. Primary Hazard Class 1 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
1.1	Explosive Materials (Military Shipments)	Unspecified
	Explosive, Blasting, Type E	0241
	Explosive, Blasting, Type A	0081
	Boosters	0042
	Cord Detonating	0065
1.2	Explosive Materials (Military Shipments)	Unspecified
1.3	Explosive Materials (Military Shipments)	Unspecified
1.4	Explosive Materials (Military Shipments)	Unspecified
	Detonator Assemblies, Non-Electric	0361
	Detonators, Non-Electric	0267
1.5	Explosive, Blasting, Type E or Agent Blasting, Type E	0332
	Explosive, Blasting, Type B or Agent Blasting, Type B	0331
	Ammonium Nitrate-Fuel Oil Mixture	0331

HC 2 Gas Materials: HCs 2.0, 2.1, 2.2 and 2.3 were transported in the Interior Alaska Subarea. The HC 2.0 commodities represent materials that were transported via Alaska Railroad on the Anchorage-Fairbanks rail segment. HC 2.1 saw an approximate 80% increase in volume shipped between 2007 and 2008, and then an approximate 67% decrease between 2008 and 2009. HC 2.2 increased consistently from year to year. HC 2.3 increased approximately 75% in 2008 and then decreased approximately 80% in 2009. Table 5-75 lists the primary HC 2 commodities shipped within the Interior Alaska Subarea.

Table 5-75. Primary Hazard Class 2 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
2.0	Gases	Unspecified
2.1	Methane, Refrigerated Liquid or Natural Gas, Refrigerated Liquid	1972
	Propane Cylinders	1978
	Acetylene, Dissolved	1001
2.2	Nitrogen, Compressed	1066
	Oxygen, Compressed	1072

HC 3 Flammable Liquid Materials: The Interior Alaska Subarea displays the greatest volume of HC 3.0 transported within the State. The primary source of this commodity is crude oil that is transported via the Trans-Alaska Pipeline from the North Slope to Valdez. Table 5-76 lists the primary HC 3 commodities shipped within the Interior Alaska Subarea.

Table 5-76. Primary Hazard Class 3 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
3.0	Petroleum Crude Oil	1267
	Flammable Liquids, N.O.S.	1993
	Paint	1263
	Gasoline	1203
	Adhesives	1133
	Combustible Liquid, N.O.S.	1993
	Petroleum Distillates, N.O.S. or Petroleum Products, N.O.S.	1268
	Flammable Liquids	Unspecified

HC 4 Flammable Solid Materials: HC varied between 4.1, 4.2 and 4.3 from year to year for this grouping of commodities. Volumes also varied and displayed no visible trend

other than potentially industrial demands. There were no HC 4.0 commodities shipped in a volume that exceeded 500,000 lbs.

HC 5 Oxidizer and Organic Peroxide Materials: HC 5.1 and 5.2 were transported within the Interior Alaska Subarea each year. The volume of HC 5.1 shipped within the Interior Alaska represented the second highest volume of HC 5.1 transported statewide. HC 5.1 decreased and increased slightly from year to year. Similar to Cook Inlet, HC 5.2 increased by approximately 35% between 2007 and 2008 and then by another 90% between 2008 and 2009. Table 5-77 lists the primary HC 5 commodities shipped within the Interior Alaska Subarea.

Table 5-77. Primary Hazard Class 5 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
5.1	Ammonium Nitrate	3375
	Ammonium Nitrate	1942
	Sodium Nitrate	1498

Within HC 5.2, there were no commodities shipped in a volume that exceeded 500,000 lbs.

HC 6 Poisons: HC 6.1 and 6.2 were transported in the Interior Alaska Subarea. Sodium Cyanide, HC 6.1, was the largest volume commodity transported via the Alaska Railroad each year and any changes in volume follow the increases or decreases noted in the Alaska Railroad data. HC 6.2 commodities were primarily regulated medical waste products. Table 5-78 lists the primary HC 6 commodities shipped within the Interior Alaska Subarea.

Table 5-78. Primary Hazard Class 6 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
6.1	Sodium Cyanide	1689

HC 7 Radioactive Materials: HC 7.0 shipped within the Interior Alaska Subarea decreased significantly from year to year dropping by half in 2008 and then by another 85% in 2009. There were no HC 7.0 commodities shipped in volumes that exceeded 500,000 lbs.

HC 8 Corrosive Materials: The volume of HC 8.0 shipped within the Interior Alaska Subarea consistently increased from year to year. Between 2007 and 2008 the volume increased by approximately 35%, and between 2008 and 2009 the volume increased by approximately 10%. Table 5-79 lists the primary HC 8 commodities shipped within the Interior Alaska Subarea.

Table 5-79. Primary Hazard Class 8 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
8.0	Corrosives	Unspecified
	Batteries, Wet, Filled with Acid	2794
	Bisulfites, Aqueous Solutions, N.O.S.	2693
	Amines, Liquid, Corrosive, N.O.S. or Polyamines, Liquid, Corrosive, N.O.S.	2735
	Corrosive Cleaning Supplies	1760

HC 9 Miscellaneous Materials: The volume of HC 9.0 commodities shipped within the Interior Alaska Subarea saw a dramatic increase between 2007 and 2008 and then dropped below 2007 levels in 2009. The sharp increase in 2008 could be attributable to the increase in the Alaska Permanent Fund Dividend checks during this timeframe. Table 5-80 lists the primary HC 9 commodities shipped within the Interior Alaska Subarea.

Table 5-80. Primary Hazard Class 9 Commodities Shipped within the INT Subarea

Hazard Class	Hazardous Material Description (Greater than 500,000 lbs Shipped)	UN ID Number
9.0	Miscellaneous Hazardous Material Gases	Unspecified
	Engines / Vehicles	3166
	Asbestos	2212

Figure 5-50 depicts the volume of hazardous materials shipped each year within the Interior Alaska Subarea by Hazardous Material Name for volumes exceeding 500,000 pounds.

Figure 5-50. Hazardous Material Commodities by Hazardous Material Name (Greater than 500,000 lbs) for the Interior Alaska Subarea, for 2007 through 2009, presented on a log scale.

