

**TABLE A.4-1.—Radionuclide Inventories<sup>a</sup> for Selected Livermore Site Facilities**

<b>Building Number</b>	<b>Radionuclide</b>	<b>Approximate<sup>c</sup> Quantity or Limit (kg, lb, or Ci)</b>	<b>Status<sup>d</sup></b>
Building 131 High Bay	Natural thorium	0.5 kg	Radiological facility
	Depleted uranium	7,700 kg	
		Inventory maintained below Category 3 thresholds	
Building 132N	Natural uranium	Inventory maintained below Category 3 thresholds	Radiological facility
	Depleted uranium		
	Sealed sources		
Building 132S	Natural uranium	Inventory maintained below Category 3 thresholds	Radiological facility
	Depleted uranium		
	Sealed sources		
Building 151	15 radionuclides	Inventory maintained below Category 3 thresholds. Ratio approximately 0.633 <sup>b</sup>	Radiological facility
Building 152	Sealed sources	Inventory maintained below Category 3 thresholds	Radiological facility
Building 154	Sealed sources	Inventory maintained below Category 3 thresholds	Radiological facility
Building 190	Tritium	20.0 Ci	Radiological facility
	Cobalt-60	$1.43 \times 10^{-4}$ Ci	
	Americium-241	$1.11 \times 10^{-5}$ Ci	
	Plutonium-238	0.027 Ci	
	Plutonium-239	1.50 Ci	
Building 191	Depleted uranium	0.008 Ci	Radiological facility
Building 194	Uranium-235	0.192 kg	Radiological facility
	Plutonium-239	0.003 kg	
	6 sealed sources	Inventory maintained below Category 3 thresholds	
Building 231	Natural thorium	0.5 kg	Radiological facility
	Natural uranium	9.5 kg	
	Depleted uranium	3,000 kg	
	Rhenium	60 kg	
Building 231 vault	Natural thorium	11 kg	Radiological facility
	Uranium-235	3.4 kg	
	Uranium-238	1,700 kg	
Building 232 Fenced Area and 233 vault	H-2 Deuterium	503 kg	Radiological facility
	Lithium	555 kg	
	Thorium	150 kg	
	Low enriched uranium	0.3 kg	
	Natural or depleted uranium	8,000 kg	
Building 239	Plutonium, fuel grade equivalent <sup>e</sup>	6 kg	Varies; resident inventory maintained below Category 3 thresholds
	Highly enriched uranium <sup>e</sup>	50 kg	
	Depleted uranium	500 kg	
	Tritium	0.02 kg	

**TABLE A.4-1.—Radionuclide Inventories<sup>a</sup> for Selected Livermore Site Facilities (continued)**

<b>Building Number</b>	<b>Radionuclide</b>	<b>Approximate<sup>c</sup> Quantity or Limit (kg, lb, or Ci)</b>	<b>Status<sup>d</sup></b>
Building 241	Depleted uranium 5 radionuclides	2,650 kg Inventory maintained below Category 3 thresholds	Radiological facility
Building 251	42-Category 2 radionuclides	Inventory maintained below Category 2 thresholds	Category 2 facility
Building 255E	Sealed sources	Inventory maintained below Category 3 thresholds	Radiological facility
Building 261/262	16 Radionuclides	Inventory maintained below Category 3 thresholds	Radiological facility
	Thorium	100 lbs (Metal)	
	Natural uranium	100 lb	
	Depleted uranium	300 lb	
Building 322	Depleted uranium	30 kg	Radiological facility
Building 327	Depleted uranium	95 kg	Radiological facility
Building 331 <sup>f</sup>	Tritium <sup>e</sup>	0.035 kg	Inventory is distributed between two segments; small quantities of other radionuclides may be present but the facility will remain a Category 3 facility
Building 332	Plutonium, fuel grade equivalent <sup>e</sup>	1,500 kg	Category 2 facility
	Enriched uranium <sup>e</sup>	500 kg	
	Depleted or natural uranium <sup>e</sup>	3,000 kg	
Building 334 <sup>f</sup>	Plutonium, fuel grade equivalent <sup>e</sup>	18 kg	Category 3 facility
	Enriched uranium	100 kg	
	Depleted uranium	500 kg	
	Tritium	0.0001 kg	
Building 361	Phosphorus-32	0.027 Ci	Radiological facility
	Sulphur-35	0.008 Ci	
	Carbon-14	0.131 Ci	
	Tritium	0.29 Ci	
Building 362	Carbon-14	0.036 Ci	Radiological facility
	Tritium	0.006 Ci	
Building 363	Carbon-14	0.002Ci	Radiological facility
	Tritium	0.001 Ci	
Building 364	Cesium-137 (sealed Source)	$3.43 \times 10^3$ Ci	Radiological facility
Building 366	Phosphorus-32	0.007 Ci	Radiological facility
Building 378	20 radionuclides (Sealed sources)	Inventory maintained below Category 3 thresholds	Radiological facility
Building 379	20 radionuclides (Sealed sources)	Inventory maintained below Category 3 thresholds	Radiological facility
Building 381	Tritium	8.5 Ci (storage limit – 20 Ci)	Radiological facility
	8 radionuclides (Sealed sources)	Inventory maintained below Category 3 thresholds	

**TABLE A.4–1.—Radionuclide Inventories<sup>a</sup> for Selected Livermore Site Facilities (continued)**

<b>Building Number</b>	<b>Radionuclide</b>	<b>Approximate<sup>c</sup> Quantity or Limit (kg, lb, or Ci)</b>	<b>Status<sup>d</sup></b>
RHWM Facilities (Area 514)	Miscellaneous radionuclides	Inventory maintained below Cat 3 thresholds	Radiological facility
RHWM Facilities (Area 612)	Cat 2 radionuclides	See Appendix B for inventory limits	Category 2 facility
DWTF Buildings 695/696S	Cat 3 radionuclides	See Appendix B for inventory limits	Category 3 facility
DWTF Building 693/696RWSA	Cat 2 radionuclides	See Appendix B for inventory limits	Category 2 facility
Cargo Container Testing facility (planned)	Depleted or natural uranium Uranium-235 Plutonium-239 Sealed sources	50 kg  1.0 kg (metal), 0.2 kg (oxide) 0.40 kg Inventory maintained below Category 3 thresholds	Radiological facility

Source: LLNL 1999b, g; LLNL 2000d, k, l, o, p; LLNL 2001b,e, f, aw; LLNL 2002ar, cq, co.

<sup>a</sup>Summary information, additional details are provided in Appendix B. Numbers may be rounded.

<sup>b</sup>Ratio of activity to Category 3 threshold must be below 0.8 in order for a radiological accident analysis to not be required in a hazard analysis report.

<sup>c</sup>Inventories are snapshots in time. The information is provided to give the reader a degree of scale and is not (unless otherwise stated) a limit.

Category 2 – Hazard analysis shows the potential for significant onsite consequences. Category 3 – Hazard analysis shows the potential for only significant localized consequences. Radiological–Facilities that do not meet or exceed Category 3 threshold criteria but still possess some amount of radioactive material. Category 2 and Category 3 thresholds are defined in DOE Standard DOE-STD-1027-92 (DOE 1997d).

<sup>e</sup>Administrative limit.

<sup>f</sup>Materials in Buildings 331 and 334 are within the Superblock Administrative Limits for plutonium and uranium.

Ci = curies; DWTF = Decontamination and Waste Treatment Facility; kg = kilograms; RHWM = radioactive and hazardous waste management; RWSA = radioactive waste storage area.

**TABLE A.4–2.—Radionuclides Inventories<sup>a</sup> for Site 300 Facilities**

<b>Material</b>	<b>Use</b>	<b>Approximate Quantities<sup>b</sup></b>
Depleted uranium	Assembly	4.2 Ci
	Components	10,640 kg
Thorium-232	Assembly	01 Ci
	Components	910 kg
Tritium	Assembly	193 Ci
	Components	20 mg

Source: LLNL 2002l.

<sup>a</sup> Inventories are snapshots in time. The information is provided to give the reader a degree of scale and is not (unless otherwise stated) a limit.

<sup>b</sup> Approximate quantities are for each authorized facility.

Ci = curies; kg = kilograms; mg = milligrams.