

§ 420.69

from gallons to pounds using the conversion factors provided in appendix E, table E-3 and the following equation:

Pounds of propellant = gallons × density of propellant (pounds per gallon).

(b) A launch site operator shall use appendix E, table E-3 to determine hazard and compatibility groups and shall separate liquid propellants from each other and from each public area using distances no less than those provided in appendix E, tables E-4 through E-7 in accordance with the following:

(1) A launch site operator shall measure minimum separation distances from the hazard source in an explosive hazard facility, such as a container, building, segment, or positive cutoff point in piping, closest to each explosive hazard facility.

(2) A launch site operator shall measure the minimum separation distance between compatible liquid propellants using the “intragroup and compatible” distance for the propellant quantity and hazard group that requires the greater distance prescribed by appendix E, tables E-4, E-5, and E-6.

(3) A launch site operator shall measure the minimum separation distance between liquid propellants of different compatibility groups using the “public area and incompatible” distance for the propellant quantity and hazard group that requires the greater distance provided in appendix E, tables E-4, E-5, and E-6, unless the propellants of different compatibility groups are subdivided by intervening barriers that prevent mixing. If such barriers are present, the minimum separation distance shall be the “intragroup and compatible” distance for the propellant quantity and group that requires the greater distance provided in appendix E, tables E-4, E-5, and E-6.

(4) A launch site operator shall separate liquid propellants from each public area using a distance no less than the “public area and incompatible” distance provided in appendix E, tables E-4, E-5, and E-6.

(5) A launch site operator shall separate each explosive hazard facility that contains liquid propellants where explosive equivalents apply pursuant to paragraph (a)(3) of this section from all other explosive hazard facilities of a

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single customer using the intraline distance provided in appendix E, table E-7, and from each public area using the public area distance provided in appendix E, table E-7.

§ 420.69 Solid and liquid propellants located together.

(a) A launch site operator proposing an explosive hazard facility where solid and liquid propellants are to be located together shall determine the minimum separation distances between the explosive hazard facility and other explosive hazard facilities and public areas in accordance with one method provided in paragraphs (b), (c), or (d) of this section.

(b) A launch site operator shall determine the minimum separation distances between the explosive hazard facility and all other explosive hazard facilities and public areas required for the liquid propellants in accordance with section 420.67(b)(5), and add the minimum separation distances between the explosive hazard facility and all other explosive hazard facilities and public areas required for the solid propellants in accordance with section 420.65, treating the solid propellants as explosive division 1.1.

(c) A launch site operator shall determine the minimum separation distances between the explosive hazard facility and all other explosive hazard facilities and public areas required for the liquid propellants in accordance with section 420.67(b)(5), and add the minimum separation distances between the explosive hazard facility and all other explosive hazard facilities and public areas required for the solid propellants in accordance with section 420.65, using the explosive equivalent of the explosive division 1.3.

(d) A launch site operator shall conduct an analysis of the maximum credible event (MCE), or the worst case explosion that is expected to occur. If the MCE shows that there will be no simultaneous explosion reaction of the liquid propellant tanks and the solid propellant motors, then the minimum distance between the explosive hazard facility and all other explosive hazard facilities and public areas must be based on the MCE.