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# 40 C.F.R. § 65.147

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## Flares.

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(a) *Flare equipment and operating requirements.* Flares subject to this subpart shall meet the performance requirements of paragraphs (a)(1) through (7) of this section.

(1) Flares shall be operated at all times when emissions are vented to them.

(2) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (b)(3)(i) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(3) Flares shall be operated with a flare flame or at least one pilot flame present at all times, as determined by the methods specified in paragraph (c) of this section.

(4) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (a)(4)(ii) of this section and the maximum tip velocity specifications in paragraph (a)(6) of this section, or adhering to the requirements in paragraph (a)(4)(i) of this section.

(i)

(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity,  $V_{\max}$ , as determined by Equation 147-1 of this section:

$$V_{\max} = (X_{H_2} - K_1) * K_2 \quad (\text{Eq. 147-1})$$

Where:

$V_{\max}$  = Maximum permitted velocity, m/sec.  $K_1$  = Constant, 6.0 volume-percent hydrogen.  $K_2$  = Constant, 3.9 (m/sec)/volume-percent hydrogen.  $X_{H_2}$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77 (incorporated by reference as specified in § 65.13).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(3)(iii) of this section.

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