Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

3745-2-09 Whole effluent toxicity provisions and water quality based effluent limit calculation procedures.

(A) Protection of aquatic life - whole effluent approach.

(1) An acute toxicity level of 0.3 acute toxic units (TU_a) shall apply outside the mixing zone to limited resource water, warmwater, exceptional warmwater, coldwater, seasonal salmonid, and modified warmwater habitat use designations in accordance with Chapter 3745-1 of the Administrative Code and the following:

$TU_a = 100/LC50$

Where:

LC50 = the median lethal concentration as defined in rule 3745-2-02 of the Administrative Code.

(2) A chronic toxicity level of 1.0 chronic toxic units (TU_c) shall apply outside the mixing zone to warmwater, exceptional warmwater, coldwater, seasonal salmonid, and modified warmwater habitat use designations, where:

$TU_c = 100/IC_{25}$ for all chronic endpoints, except that;

TU_c = 100/(geometric mean of NOEC and LOEC) for survival or mortality endpoints using daphnid species when this is more restrictive than the TU_c value resulting from the definition based on IC_{25}.

(3) The chronic toxicity level does not apply to limited resource water use designations.

(4) For undesignated waters, an acute toxicity level of 0.3 TU_a and a chronic toxicity level of 1.0 TU_c shall apply outside the mixing zone.

(5) Acute toxicity within the mixing zone shall be regulated by paragraph (B) of rule 3745-33-07 of the Administrative Code.

(B) For discharges of whole effluent toxicity (WET) to flowing receiving waters, the WQBEL for WET shall be calculated using the following mass balance equation:

$$\frac{WQC\left(Q_{eff} + Q_{up}\right) - Q_{up}\left(WQ_{up}\right)}{Q_{eff}}$$

Where:

WQC = toxicity level as established in paragraph (A) of this rule;

Q_{eff} = effluent flow as established in paragraph (A)(4) of rule 3745-2-05 of the

Administrative Code;

Q_{up} = stream design flow as established in paragraphs (A)(1) and (A)(2) of rule 3745-2-05 of the Administrative Code; and

WQ_{up} = background water quality as established in paragraph (C) of this rule.

An alternative modeling method may be used if the discharger demonstrates to Ohio EPA's satisfaction that it is appropriate and protective of water quality criteria.

(C) Background water quality for WET calculations shall be determined using the following requirements.

(1) Use 0.0 TU_c for background chronic toxicity unless there is specific information indicating additivity between the discharge and another source or sources in the background waters. If there is evidence of additivity, use 0.5 TU_c for background chronic toxicity. If sufficient data exists, use the average value of the data for background chronic toxicity.

(2) To establish background levels of acute toxicity, Ohio EPA shall consider the likelihood for acute toxicity to exist in the background waters of the discharge using available information on the following factors:

(a) The degree and type of biological effects in the background waters determined with biological index measurements;

(b) The frequency and magnitude of acute toxicity occurrences in the background waters used in toxicity tests;

(c) Data on additive, synergistic, or antagonistic effects of a discharge when it is combined with receiving water;

(d) The quality and quantity of each type of data available; and

(e) Other relevant factors.

(3) After an analysis of the likelihood for acute toxicity to exist in the background waters of the discharge, background toxicity shall be set equal to one of the following values:

(a) If there is likelihood, use 0.15 TU_a or if sufficient data are available and indicate that acute toxicity levels are routinely exceeded, use the average value of the data;

(b) If there is no likelihood or there are no data available to make an assessment of the likelihood, use 0.0 TU_a; or

(c) If background toxicity is due to an identifiable discharge that has not yet achieved toxicity limits required by paragraph (B) of rule 3745-33-07 of the Administrative Code, use 0.0 TU_a.

(D) Wasteload allocation (WLA) results for acute toxicity shall not exceed 1.0 TU_a unless the provisions in paragraph (B) of rule 3745-33-07 of the Administrative Code are met.

(E) Multiple discharges. When the director determines that it is necessary to consider multiple discharges in a WLA, the procedures defined in paragraph (A)(8) of rule 3745-2-05 of the Administrative Code shall be followed.

(F) WQBELs for WET for direct discharges to lakes or non-flowing receiving waters.

(1) WLAs to maintain chronic toxicity levels for direct discharges to non-flowing receiving waters shall be determined using the following equation:

11(WQC) - 10(BACK)

Where:

WQC = chronic toxicity level as established in paragraph (A) of this rule; and

BACK = background water quality as established in paragraph (C) of this rule.

(2) WLAs for acute levels shall be set equal to 1.0 TU_a.

(3) A mixing demonstration may be conducted in accordance with rule 3745-2-08 of the Administrative Code to justify a different quantity of receiving water in the WLA determination for chronic levels. Allocation results for acute toxicity shall not exceed 1.0 TU_a unless the provisions in paragraph (B) of rule 3745-33-07 of the Administrative Code are met.

(4) An alternate modeling method may be used if the discharger demonstrates to Ohio EPA's satisfaction that it is appropriate and protective of water quality levels.

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