7.12 **DISPERSIBLE CONCENTRATES** **(DC)**

Note for preparation of draft specifications. Do not omit clauses or insert additional clauses, nor insert limits that are more lax than those than given in the guidelines, without referring to section 4. From the “Notes” provided at the end of this guideline, incorporate only those which are applicable to the particular specification.

**...... [ISO common name] DISPERSIBLE CONCENTRATE**

[CIPAC number]/DC (month & year of publication)

7.12.1 **Description**

The material shall consist of technical ...... [ISO common name], complying with the requirements of FAO/WHO specification ...... , in the form of ....... (see Section 4.2), dissolved in suitable solvents, together with any other necessary formulants. It shall be in the form of a stable homogeneous liquid, free from visible suspended matter and sediment, to be applied as a dispersion after dilution in water.

7.12.2 **Active ingredient**

7.12.2.1 **Identity tests** (Note 1)

The active ingredient shall comply with an identity test and, where the identity remains in doubt, shall comply with at least one additional test.

7.12.2.2 **...... [ISO common name] content** (Note 1)

The ...... [ISO common name] content shall be declared (g/kg or g/l at 20 ± 2ºC, Note 2) and, when determined, the content measured shall not differ from that declared by more than the appropriate tolerance, given in the table of tolerances, Section 4.3.2.

7.12.3 **Relevant impurities**

7.12.3.1 **By-products of manufacture or storage** (Note 3), if required

Maximum: ......% of the …… [ISO common name] content found under 7.12.2.2.

7.12.3.2 **Water** (MT 30.5) (Note 4), if required

Maximum: ...... g/kg.

7.12.4 **Physical properties**

7.12.4.1 **Acidity** and/or **Alkalinity** (MT 191) or **pH range** (MT 75.3) (Note 4), if required

Maximum acidity: ...... g/kg calculated as H2SO4.

Maximum alkalinity: ...... g/kg calculated as NaOH.

pH range: ...... to ......

7.12.4.2 **Dispersion stability** (MT 180)

The formulation, when diluted (Note 5) with CIPAC Standard Waters A and D, shall comply with the following:

|  |  |
| --- | --- |
| Time after allowing the dispersion to stand | Limits of stability |
| 0 h | initial dispersion complete |
| 0.5 h | “cream”, maximum: ...... ml |
|  | “free oil”, maximum: ...... ml |
|  | sediment, maximum: ...... ml |
| 24 h | re-dispersion complete |
| 24.5 h | “cream”, maximum: ...... ml |
|  | “free oil”, maximum: ...... ml |
|  | sediment, maximum: ...... ml |

7.12.4.3 **Wet sieve test** (MT 185)

Maximum: .......% of the formulation shall be retained on a ......µm test sieve, at the dilutions specified.

7.12.4.4 **Persistent foam** (MT 47.3) (Note 6)

Maximum: ...... ml after ...... min.

7.12.5 **Storage stability**

7.12.5.1 **Stability at 0 °C** (MT 39.3)

After storage at 0 ± 2 °C for 7 days, the volume of solid and/or liquid which separates shall not be more than 0.3 ml.

7.12.5.2 **Stability at elevated temperature** (MT 46.3)

After storage at 54 ± 2 °C for 14 days (Note 7), the determined average active ingredient content must not be lower than ......% relative to the determined average content found before storage (Note 8) and the formulation shall continue to comply with the clauses for:

- by-products of manufacture or storage (7.12.3.1),

- acidity, alkalinity or pH range (7.12.4.1),

- dispersion stability (7.12.4.2),

as required.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Note 1 Method(s) of analysis must be CIPAC, AOAC or equivalent. If the methods have not yet been published then full details, with appropriate method validation data, must be submitted to FAO and WHO by the proposer.

Note 2 If the buyer requires both g/kg and g/l at 20 °C, then in case of dispute the analytical results shall be calculated as g/kg.

Note 3 This clause should include only relevant impurities and the title should be changed to reflect the name of the relevant impurity. Method(s) of analysis must be peer validated.

Note 4 The method to be used shall be stated. If several methods are available, a referee method shall be selected.

Note 5 The formulation should be tested at the highest and lowest rates of use recommended by the supplier.

Note 6 The mass of sample to be used in the test should correspond to the highest rate of use recommended by the supplier. The test is to be conducted in CIPAC standard water D.

Note 7 Unless other temperatures and/or times are specified. Refer to Section 4.6.2 of this Manual for alternative storage conditions.

Note 8 Samples of the formulation taken before and after the storage stability test may be analyzed concurrently after the test in order to reduce the analytical error.