

IS : 10758 - 1983

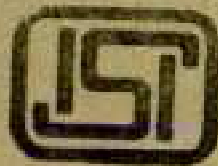
(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR

DE-ODOURIZING-CUM-DISINFECTANT FLUIDS

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

*Indian Standard*SPECIFICATION FOR
DE-ODOURIZING-CUM-DISINFECTANT FLUIDS

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Indian Standard

SPECIFICATION FOR DE-ODOURIZING-CUM-DISINFECTANT FLUIDS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 22 December 1983, after the draft finalized by the Disinfectants Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Disinfectant fluids based on pine oil, etc, are extensively used for disinfectant-cum-de-odourizing purposes.

0.3 In preparation of this standard, due consideration has been given to the provisions of the *Drugs and Cosmetics Act*, 1940 and Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and methods of sampling and tests for de-odourizing-cum-disinfectant fluids.

2. GRADES

2.1 The de-odourizing-cum-disinfectant fluids covered by this standard shall be of the following three grades conforming to germicidal values

*Rules for rounding off numerical values (*revised*).

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shown against each:

| Grade | Rideal Walker (RW) Coefficient, Min | Staphylococcal Coefficient (SA), Min |
|-------|--|--|
| 1 | 18 | 8 |
| 2 | 10 | 5 |
| 3 | 5 | 2.5 |

3. REQUIREMENTS

3.1 Description — The material shall be a clear homogeneous and transparent solution of coal-tar acids or similar acids derived from petroleum, with or without hydrocarbon, or other phenolic compounds, including substituted phenolic compounds, or a mixture of these and a suitable emulsifier. It shall also contain pure strained absolute essential oil like pine, lemon grass or any other essential oil having pleasing odour.

NOTE — Quarternary ammonium compounds are not compatible with the above composition because of their cationic character and hence should not be incorporated in such formulations.

3.2 Volatile Matter — It shall contain 70 ± 5 percent (*m/m*) of volatile matter when tested by the method prescribed in Appendix A.

3.2.1 The material shall contain 40 to 50 percent (*v/v*) steam volatile oil when determined by the steam distillation.

3.3 Stability After Dilution — When 1 ml of the material is diluted to 400 ml with either tap water or with artificial hard water (see **B-2.1.3** of IS : 1061-1982*), the resulting emulsion shall show no separation for 6 hours between 15°C and 45°C when determined by method prescribed in **B-2** of IS : 1061-1982*.

3.4 Persistence of Odour — The odour used shall persist for a minimum of 24 hours when:

- a) a strip of filter paper soaked in liquid is hung at room temperature; and
- b) a mixture of 1 ml of liquid and 1 ml of water is kept in a small petridish at room temperature.

3.5 Flash Point (Abel) — When determined by the method prescribed in IS : 1448 (Part 20)-1960†, the flash point of the material shall not be less than 32.2°C.

*Specification for disinfectant fluids, black and white (*third revision*).

†Methods of test for petroleum and its products : Part 20 Flash point by Abel apparatus.

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3.6 Germicidal Value — Germicidal values of disinfectant fluids shall be ascertained by determining the Rideal Walker and Staphylococcal Coefficients by methods prescribed under Appendices C and D of IS : 1061-1982* respectively. The values shall be expressed in terms of the phenol coefficient (Rideal Walker as well as Staphylococcal) and the grade of the material determined in accordance with 2.1.

NOTE — The phenol coefficient is also an indication of the dilution at which the disinfectant may be employed. The varying conditions under which the different groups of disinfectant fluids are employed are too complex to enable a standard set of dilutions for use to be specified. A basic dilution of 20 times the Rideal Walker coefficient is deemed satisfactory for ordinary disinfection purposes, the dilution being (a) increased where the time of contact may be prolonged or the degree of infection is likely to be low, or (b) decreased when the period of contact is short or with highly infectious material or in the presence of the much organic material, soluble or particulate.

4. PACKING AND MARKING

4.1 Packing — Disinfectant fluids of all grades shall be packed in mild steel, tinned mild steel or other suitable containers. *Galvanized iron sheet containers shall not be used.*

4.2 Marking — The containers shall bear legibly and indelibly the following information in addition to the information as is necessary under the *Drugs and Cosmetics Act* and Rules:

- a) Name of the material;
- b) Manufacturer's name, initials or trade-mark;
- c) Grade of the material and the phenol coefficient (both Rideal Walker and staphylococcal);
- d) Month and year of manufacture and batch number;
- e) Expiry date;
- f) Volume of material in the container;
- g) Any specific instructions for use; and
- h) A declaration reading as product is free from mercury compounds.

*Specification for disinfectant fluids, black and white (*third revision*).

4.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 Representative samples of the material shall be drawn as prescribed in Appendix E of IS : 1061-1982*.

6. TESTS

6.1 Tests shall be carried out by the method referred to in 3.2, 3.2.1, 3.3, 3.5 and 3.6.

6.2 **Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water (see IS : 1070-1977†) shall be employed in tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the test results.

APPENDIX A (Clause 3.2)

DETERMINATION OF VOLATILE MATTER

A-1. APPARATUS

A-1.1 **Petri-Dish** — 75 mm diameter.

A-2. PROCEDURE

A-2.1 Weigh accurately about 10 g of the material in a tared petri-dish (see A-1.1) and evaporate in an oven maintained at 105°C. Weigh and dry to constant weight at 105°C.

*Specification for disinfectant fluids, black and white (*third revision*).

†Specification for water for general laboratory use (*second revision*).

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A-3. CALCULATION

$$\text{Volatile matter, percent by mass} = 100 - \frac{M_2 - M_1}{M} \times 100$$

where

M_2 = mass of petri-dish with residue,

M_1 = mass of empty petri-dish, and

M = mass of sample taken for the test.

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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

| QUANTITY | UNIT | SYMBOL |
|---------------------------|----------|--------|
| Length | metre | m |
| Mass | kilogram | kg |
| Time | second | s |
| Electric current | ampere | A |
| Thermodynamic temperature | kelvin | K |
| Luminous intensity | candela | cd |
| Amount of substance | mole | mol |

Supplementary Units

| QUANTITY | UNIT | SYMBOL |
|-------------|-----------|--------|
| Plane angle | radian | rad |
| Solid angle | steradian | sr |

Derived Units

| QUANTITY | UNIT | SYMBOL | DEFINITION |
|----------------------|---------|--------|---------------------------------|
| Force | newton | N | 1 N = 1 kg.m/s ² |
| Energy | joule | J | 1 J = 1 N.m |
| Power | watt | W | 1 W = 1 J/s |
| Flux | weber | Wb | 1 Wb = 1 V.s |
| Flux density | tesla | T | 1 T = 1 Wb/m ² |
| Frequency | hertz | Hz | 1 Hz = 1 c/s (s ⁻¹) |
| Electric conductance | siemens | S | 1 S = 1 A/V |
| Electromotive force | volt | V | 1 V = 1 W/A |
| Pressure, stress | pascal | Pa | 1 Pa = 1 N/m ² |

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**AMENDMENT NO. 1 MARCH 2002
TO
IS 10758 : 1983 SPECIFICATION FOR
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(Page 4, clause 3.1, Note, line 1) — Substitute 'Quaternary' for 'Quarterary'.

(CHD 25)

Reprography Unit, BIS, New Delhi, India

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