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XYLOLE, INDUSTRIAL – SOLVENT GRADE

1 GENERAL

This specification governs the quality requirements of Xylole, Industrial-solvent grade.

2 APPLICATION

Suitable for use as an industrial solvent and especially as a thinner for paints.

3 COMPLIANCE WITH NATIONAL STANDARDS

Since the nation standard IS 359 had been withdrawn varnish the shall meet the requirements of this specification.

4 FREEDOM FROM DEFECTS

The material shall be clear and free from suspended matter and undissolved water.

5 COMPOSITION

The material shall be derived from Crude Bezole obtained by extraction of the gas produced from coal in coke oven and reports, by suitable fractionation and refining after the removal of bezole and toluote or recovered as a product in the petroleum refining or petrochemical operations.

6 TEST SAMPLE

- a) To draw a representative sample, the contents of the container selected for sampling shall be mixed as thoroughly as possible by shaking or stirring or both or by rolling, so as to bring all portions into uniform distribution.
- b) The samples shall be taken in a suitable, clean, dry air-tight glass bottle of one litre capacity. It should be almost but not completely filled by the sample.
- c) In case of failure of first sample, two-sample shall be drawn from other two drums of the same consignment at random and failure of the second sample in complying with the specification will lead to the rejection of the whole consignment.

Test sample shall be drawn/ supplied for testing and approval as per appendix 'D' of IS: 359.

7 PROPERTIES

Visual Inspection:

The material shall be clean free from dust and any other imparitives when tested in accordance with the test methods shown against each, the test samples shall meet the following requirements

Unless specified otherwise, tests shall be conducted as prescribed in relevant parts and section of Indian standard IS: 101 and IS: 14946. The test panels shall preferably be prepared on blast cleaned surface.

8 Colour (Cl.5 of IS: 82)

Shall not be darker than a freshly prepared solution of 0.8 ml of 0.1 N Potassium dichromate and 12 ml of 0.1 N Cobalt sulphate made upto 1000 ml with water.

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**8.1 Specific gravity (C1.6.3.3. of IS:82)****8.1.1 At 15.5°/15.5°C**

0.860 to 0.875

8.1.2 At 27°/27°C

0.850 to 0.875

8.2 Mercaptans (IS: 1448, Part 19)

Shall give no positive reaction.

8.3 Residue on evaporation (C1.8 of IS: 82)

10.0 mg per 100 ml maximum.

8.4 Distillation range (IS: 1448, Part 18; Part 1)

Difference between initial and final boiling points shall not be more than 5°C. Lower boiling point shall not be less than 137°C and the highest boiling point shall not exceed 145°C.

8.5 KEEPING PROPERTY

The containers shall be securely closed, protected from light and shall be stored in a cool place. Except when they are opened for the purpose of cleaning and rendering them free from Xylole vapour, all empty tanks or other containers shall be kept securely closed unless they have been thoroughly cleaned and free from Xylole vapour.

8.6 Acceptance Clause

The material shall be accepted on the basis of test values & clause 8.1, 8.1.2, 8.2, 8.3

9 TEST CERTIFICATES

Three copies of test certificates shall be supplied along with each consignment, giving the following information:

In addition, the supplier shall ensure to enclose one copy of the test certificate along with the despatch documents to facilitate quick clearance of the material.

- AA56703, Rev. 04: XYLOLE, INDUSTRIAL – SOLVENT GRADE
- BHEL Order No.
- Batch / Lot No.
- Supplier's/ Manufacturer's Name and Trade mark, if any
- Date of manufacture
- Test results of clause 8.

10 Environmental Requirements

The supplier shall furnish Material Safety Data Sheet (MSDS) covering all information relating to human safety and environmental impacts of the hazardous materials particularly during their transportation, storage, handling and disposal along with each supply.

Each container shall be marked with corresponding symbol and minimum worded cautionary notice for flammable / corrosive / toxic / harmful / irritant and oxidizing etc. as applicable"

11 PACKING & MARKING

The material shall be supplied in leak proof steel drums of 20 or 200-25 litres capacity as stated in BHEL order. Containers shall be dry, clean, free from substance, soluble in Xylole.

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“A caution label” Flammable” together with the corresponding symbol for labelling of dangerous goods shall be affixed on each container”

Each container shall bear the following information:

- AA56703:XYLOLE, INDUSTRIAL – SOLVENT GRADE
- BHEL Order No.
- Supplier's / Manufacturer's Name and Trade mark, if any
- Batch No.
- Date of manufacture
- Quantity supplied

12 REFERRED STANDARDS (Latest Publications Including Amendments)

- 1) IS: 82
- 2) IS 1448, Part 19
- 3) IS 1448, Part 18
- 4) IS 1448, Part 1



13 PROPERTIES

The material shall meet the following technical requirements:

13.1 DRYING TIME

- Surface dry : 15 minutes, max.
- Hard dry : 2 hrs. min.
- Time to topcoat : 24 hrs. min.

13.2 CONSISTENCY

The liquid component mixed with powder shall be suitable for application by spray as such or when thinned in the proportions at specified by the manufacturer.

13.3 FLASH POINT

Not below 15°C

13.4 MASS PER TEN LITRES

20 kgs., min.

13.5 VOLUME SOLIDS

60% , min.

13.6 POT LIFE OF MIX (ANNEXURE D OF IS: 14946)

4 hrs. min. at 30°C

13.7 DRY FILM THICKNESS

65-75 microns per coat when measured after 72 hrs. of curing.

13.8 RESISTANCE TO SALT SPRAY TEST (TYPE TEST)

The material shall pass resistance to salt spray test, when test panels cured for 72 hrs. are subjected to continuous exposure for 2000 hrs.

13.9 PROTECTION AGAINST CORROSION UNDER CONDITIONS OF CONDENSATION (TYPE TEST)

The material shall pass the test, when test panels cured for 72 hrs. are subjected to exposure at specified conditions for 2000 hrs.

13.10 HEAT RESISTANCE TEST

The film shall not show signs of cracking, blistering or flaking when coated test panels air-dried for 48 hrs., are kept at 400±10°C for 6 hrs followed by plunging in cold water-three cycles, min.

13.11 COMPOSITION

13.11.1 SOLID CONTENT

68%, min. by weight of mixed paint.

13.11.2 TOTAL METALLIC ZINC CONTENT (ANNEXURE B OF IS: 14946)

75%, min. by weight in non-volatile portion of the paint.

13.12 MUD-CRACKING TEST

The coating applied to dry film thickness of 120 microns minimum, shall not show any mud cracking when viewed under 10 X magnification.

13.13 SEDIMENTATION TEST

There shall not be any segregation of zinc powder from the base material within 2 hrs in the



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mixed paint.

13.14 CURE TEST

The coated test panels air dried for 48 hrs shall pass the cure test when tested according to test procedure given in ASTM D 4752.

14 KEEPING PROPERTY

When stored in covered dry place in the original sealed containers under normal ambient conditions, the liquid portion shall not show thickening, curdling, gelling or hard caking and also retain the properties of mixed paint prescribed in this specification for a period of six months from date of delivery.

15 TEST CERTIFICATES

Unless otherwise stated, three copies of test certificates and product data sheet shall be supplied along with each consignment giving following information:

In addition, the supplier shall ensure to send one copy of test certificate along with the dispatch documents to facilitate quick clearance of the materials.

- AA56703, Rev. 04: XYLOLE, INDUSTRIAL – SOLVENT GRADE
- BHEL Order No. & Date
- Batch / Lot No.
- Supplier's/ Manufacturer's Name and Trade mark, if any
- Quality supplied
- Date of manufacture and expiry
- Test values as per clause 9
- Mixing ratio
- Technical information, if any:

16 PACKING AND MARKING

Unless otherwise stated, the components of paint shall be supplied separately in moisture and leak proof containers in packing size as specified in the BHEL order.

Each container of the consignment shall bear the following information printed or pasted at suitable place so as to protect it from damage during transportation and handling:

- AA56703: XYLOLE, INDUSTRIAL – SOLVENT GRADE
- BHEL Order No. & Date
- Batch / Lot No.
- Supplier's/ Manufacturer's Name and Trade mark, if any
- Name of contents:
- Mixing ratio:
- Quantity in container
- Date of manufacture and expiry
- Technical information, If any:

17 ENVIRONMENTAL REQUIREMENTS

The supplier shall furnish Material Safety Data Sheet (MSDS) covering all information relating to human safety and environmental impacts of the hazardous materials particularly during their transportation, storage, handling and disposal along with each supply.



Each container shall be marked with corresponding symbol and minimum worded cautionary notice for flammable / corrosive / toxic / harmful / irritant and oxidizing etc. as applicable.

18 PRECAUTIONS

- d) Use off the mixed paints within stipulated pot life i.e., 4 hrs after mixing and should be continuously agitated during application.
- e) Inorganic Zinc silicate primer should not be applied at relative humidity below 50% and the surface should remain free from condensation at the time of application.
- f) After completion of the work, the application equipment must be cleaned thoroughly immediately with thinner and kept safely for next use.
- g) The surface to be painted must be blast cleaned to Sa 2 ½, min. and the painting shall be done by spray method uniformly. However, brush may be used for touch up of local areas only.

19 REFERRED STANDARDS (Latest Publications Including Amendments)

- 1) IS: 101
- 2) IS: 14355
- 3) AA0674101
- 4) ASTM D4752