उत्पाद मानुयल

QUINALPHOS EMULSIFIABLE CONCENTRATE — विशिष्टि

IS 8028: 2023 के अनुसार

PRODUCT MANUAL FOR QUINALPHOS EMULSIFIABLE CONCENTRATE - SPECIFICATION ACCORDING TO IS 8028: 2023

भारतीय मानक ब्यूरो)अनुरूपता मूल्यांकन (विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन मे रीति और पारदर्शिता के सुसंगता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप मे उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	**उत्पाद** **Product**	:	IS 8028: 2023
	शीर्षक **Title**	:	Quinalphos Emulsifiable Concentrate - Specification
	संशोधन संख्या **No. of Amendments**	:	Nil
2.	**नमुनाकरण दिशा निर्देश** **Sampling Guidelines:**		
a)	**कच्चा माल** **Raw material**	:	Quinalphos, technical, employed in the manufacture of Quinalphos EC shall conform to IS 8072, as per provisions of Clause 3.1.1 of IS 8028:2023.
b)	**समूहिकरण दिशा निर्देश** **Grouping guidelines**	:	NA (No varieties for the product mentioned in IS)
c)	**नमूनेका परिमाण** **Sample Size**	:	500 ml
3.	**परीक्षण उपकरणो की सूची** **List of Test Equipment**	:	Please refer ANNEX – A
4.	**निरीक्षण व परीक्षण स्कीम** **Scheme of Inspection and Testing**	:	Please refer ANNEX – B
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day:**		

	i. Description ii. Cold Test iii. Flash Point iv. Emulsion Stability v. Quinalphos Content vi. Acidity & Alkalinity	
6.	**लाइसेन्स का कार्यक्षेत्र / Scope of the Licence:**	
	IS 8028: 2023 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है। "Licence is granted to use Standard Mark as per IS 8028: 2023 with the following scope:	
	उत्पाद का नाम **Name of the product**	Quinalphos (25 %) Emulsifiable Concentrate

BUREAU OF INDIAN STANDARDS
Manak Bhawan,
9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX - A
TO PRODUCT MANUAL FOR
QUINALPHOS EMULSIFIABLE CONCENTRATE - SPECIFICATION
ACCORDING TO IS 8028: 2023

LIST OF TEST EQUIPMENT

Major test equipment required to test as per the Indian Standard

Sl. No.	Test Equipment, Glassware and Chemicals	Tests used in with Clause Reference
1	Test Tube or Glass beaker, Glass Stirrer, Distilled Water and	Description Cl 3.2.1
2	Glass container (100 ml)/Beaker with cork fitted with thermometer (0 - 110 °C, L.C. - 0.1 °C), Stirring rod, water bath, Ice cold water.	Cold Test Cl 3.2.2 (IS 6940)
3	Cleaning solvent, Coolant, Lubricant, Verification Liquids, Ignitor and pilot light gas, Flash point apparatus/Abel flash point apparatus consisting of test cup, cover assembly, heating vessel, heating device, flash detector, Stirrer, Thermometers 2 (one for the oil cup of range; -35°C to +70°C, and another for the water bath of the range; -30°C to +80°C), Timing device, Barometer, External cooling bath, Test cup thermal insulating cap, Abel flash point apparatus provided with a stirrer & thermometer, Heating Vessel or bath, Ethylene Glycol.	Flash Point Cl 3.2.3 {IS 1448(Part 20)}
4	**Method I** Beaker of capacity 250 ml, with an internal diameter of 6.0 to 6.5 cm and marked at 100ml, Mohr type pipette, Glass rods- 4 to 6 mm in diameter, Graduated cylinder of capacity 100 ml, Standard Hard water, Air conditioner. **Method II** Dropping funnel, remaining equipments same as method I without Mohr type pipette.	Emulsion Stability Cl 3.2.4 (IS 6940)
5	**A 1. High Performance Liquid Chromatography (HPLC) Method-** **Apparatus –** HPLC with SS Column and detector and other specifications as per A-1.2.1 of IS 8072, Micro-Syringe - 10 µl, Analytical Balance. **Reagents –**Internal Standard Solution 1 g meta phenoxy benzaldehyde (MPB), AR grade, Quinalphos Standard Solution **Glass Wares –** Beaker, Volumetric Flask, Graduated Cylinder etc.	Quinalphos Content Cl 3.3.1 (Annex A of IS 8072)

	A-2. Gas Liquid Chromatographic (GLC) Method: **Apparatus –**Gas Liquid Chromatograph A gas chromatograph equipped with a FID detector is operated and glass column with suggested working parameters specified in A-2.1.1 of IS 8072, Micro-Syringe – 2 µl, Analytical Balance **Reagents –** Quinalphos, Reference Standard, Acetone/Toluene, Internal Standard - Di-n-butyl phthalate. **Glass Wares –** Beaker, Volumetric Flask, Graduated Cylinder etc. **A-3 TLC FOLLOWED BY UV SPECTROPHOTOMETRY:** **Apparatus** - Spectrophotometer Capable of recording or measuring in the region of 220 to 320 nm. Coated Glass Plates with Silica Gel G Containing Fluorescent Indicator 254 mm - of size 20 cm x 20 cm and layer thickness of 0.25 mm. A-3.2.3 TLC Tank - To accommodate TLC plates of 20 cm x 20 cm. A-3.2.4 Filter Paper - Whatman No. 1 or equivalent, Micro-Pippette – 5 µl or 10 µl. Spatula - Stainless steel, Centrifuge - with 15 ml capacity stoppered centrifuge tubes, Volumetric Flasks - 25 ml, UV Lamp - 254 nm, Burette - Glass A, Plastic Marker -with $(2.5)^2$ cm slot, Analytical Balance Reagents-Toluene -AR grade, Ethyl Acetate - AR grade, Methanol - Spectroscopy grade, Quinalphos Standard - of known purity, Solvent System- Mix 95 parts of toluene with 5 parts of ethyl acetate **A-4 VOLUMETRIC METHOD:** **Apparatus-**Analytical Balance, Hot Plate, Glassware **Reagent-**Nitric Acid -- 70 percent, Sulphuric Acid - 96 percent, Citric Molybdate Reagent, Hydrogen Peroxide, Mixed Indicator Solution, Quinoline Solution, Hydrochloric Acid -concentrated and 0.5 N, Sodium Hydroxide Solution -0.5 N.	
6.	Analytical Balance (0-200gm, LC 0.1mg) Hot plate/ Heating mantle/ Water bath Whattman Filter Glassware: Conical Flask, Graduated Cylinder, Burette and Pipette Reagents: Methyl red indicator solution-aqueous – 1percemt (m/v) Bromocresol purple indicator solution Standard Sodium Hydroxide Solution – 0.5 N Standard.	Acidity or Alkalinity Cl 3.3.2 (IS 6940)

The above list is indicative only and may not be treated as exhaustive.

ANNEX - B
TO PRODUCT MANUAL FOR QUINALPHOS EMULSIFIABLE CONCENTRATE - SPECIFICATION ACCORDING TO IS 8028: 2023

SCHEME OF INSPECTION AND TESTING

1.LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipment.

2. TEST RECORDS –The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark as given in Schedule of the licence shall be stenciled/printed on each container of Quinalphos EC or printed on the labels applied to the container, as the case may be, provided always that the material in each container to which this mark is thus applied conforms to every requirement of the specification.

3.1 Packing - The material shall be packed in accordance with the provisions of Clause 4.1 of IS 8028:2023, giving cross-reference to IS 8190(Part-2).

3.2 Marking - The containers shall bear legibly and indelibly the information as mentioned under clause 5.1 of IS 8028:2023. In addition, the following details shall be mentioned on each container:
i) BIS Licence No. (CM/L .....)
ii) For details of BIS certification details please visit www.bis.gov.in'.

4. CONTROL UNIT - For the purpose of this scheme, the entire quantity of the material blended and manufactured in a day shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

6. REJECTIONS - Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				**Test equipment requirement R: required (or)S: Sub-contracting permitted**	**Levels of Control**		
Cl.	**Requirement**	**Test Methods Clause Reference**			**No. of Sample**	**Frequency**	**Remarks**
3.2.1	Description	2.2.1	IS 8028	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
3.2.2	Cold Test	13.1	IS 6940	R	One	Each control unit	
3.2.3	Flash Point (Abel)	-	IS 1448 (Part 20)	R	-do-	-do-	
3.2.4	Emulsion Stability	13.3	IS 6940	R	-do-	-do-	
3.3.1	Quinalphos Content	Annex A	IS 8072	R	-do-	-do-	
3.3.2	Acidity / Alkalinity	13.5	IS 6940	R	-do-	-do-	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note -2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.