



**PRODUCT MANUAL  
FOR PHOSPHORIC ACID, FOOD GRADE  
ACCORDING TO IS 10508 : 2007**

**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.**

<b>1.</b>	<b>Product</b>	:	IS 10508 : 2007
	<b>Title</b>	:	Phosphoric Acid, Food Grade
	<b>No. of Amendments</b>	:	01
<b>2.</b>	<b>Sampling Guidelines:</b>		
a)	Raw material	:	No specific requirements
b)	Grouping guidelines	:	NA
c)	Sample Size	:	1 Liter
<b>3.</b>	<b>List of Test Equipment</b>	:	ANNEX - A
<b>4.</b>	<b>Scheme of Inspection and Testing</b>	:	ANNEX - B
<b>5.</b>	<b>Possible tests in a day :</b>		
	i. Description ii. Test for Phosphate iii. Purity as H <sub>3</sub> PO <sub>4</sub> iv. Nitrates v. Volatile acids vi. Chlorides vii. Sulphates percent by mass viii. Fluoride		
<b>6.</b>	<b>Scope of the Licence :</b>		
	"Licence is granted to use Standard Mark as per IS 10508 : 2007 with the following scope:		
	Name of the product		<b>Phosphoric Acid, Food Grade</b>

ANNEX-A

TO PRODUCT MANUAL  
FOR PHOSPHORIC ACID, FOOD GRADE ACCORDING TO IS 10508 : 2007

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

SI No.	Tests used in with Clause Reference	Test Equipment
1	<b>Description</b> Cl. 3.1	pH paper, Water, Ethanol (95 %)
2.	Test for Phosphate Cl. 3.2	Beakers, Hot plate, Phosphoric acid, Nitric acid, Ammonium molybdate, Ammonia solution.
4	Purity C. 3.3 & Table 1 (Annex A of IS 10508)	Weighing Balance, Filter Paper, Glass-stoppered Flask, Burette, Pipettes (0.1ml), Thymolphthalein Solution, Ethanol, Sodium Hydroxide (1N), Water.
5.	Nitrates C. 3.3 & Table 1 (Annex B of IS 10508)	Weighing Balance, Beakers, Pipettes (0.1ml), Phosphoric acid, Sodium chloride, Indigo carmine, Sulphuric acid.
6.	Volatile acids C. 3.3 & Table 1 (Annex C of IS 10508)	Weighing Balance, Distilling flask with a spray tap, Beakers, Heating Mantle, Burette Phosphoric acid, Phenolphthalein, Sodium hydroxide.
7.	Chlorides C. 3.3 & Table 1 (Annex D of IS 10508)	Weighing Balance, Nessler Tubes, Beakers, Filter Paper, Dark Chamber, Pipettes (1ml), Centrifuge, Water, Dilute Nitric Acid TS (Test Solutions), Hydrochloric Acid (0.01N), Silver Nitrate TS.
8.	Sulphates C. 3.3 & Table 1 (Annex E of IS 10508)	Weighing Balance, Nessler Tubes, Beakers, Filter Paper, Pipettes (1ml), Centrifuge, Water, Dilute Hydrochloric Acid TS, Sulphuric Acid (0.01N), Barium Chloride TS.
9.	Flouride C. 3.3 & Table 1 (Annex F of IS 10508)	Bunsen Burners, Apparatus for Limit Test for Fluoride, Nessler Tube, Thermometer, Flasks, Pipettes (0.5 ml), Weighing Balance, Phenolphthalein Solution, Ethanol (90%), Water, Sodium Hydroxide (1N), Conc. Sulphuric acid, Sodium Fluoride solution (50µg of fluorine), Hydrochloric Acid (4N), Zirconium Alizarin Solution (Zirconium Nitrate,

		Nitric Acid, Water, Alizarin Sulphonate Monohydrate, Ethanol).
10.	Arsenic and Lead (C. 3.3 & Table 1) (Cl. 15 of IS 1699)	<p><b>Instrument method:</b> Kjeldahl flask, Atomic absorption spectrophotometer, hydrochloric acid, water, sodium sulphate, sodium borohydride pellets, potassium chloride, measuring cylinder/ beaker, volumetric flask, weighing balance, heater.</p> <p><b>Chemical method: For Lead;</b> Nitric acid, sulphuric acid, ammonium acetate- citrate solution, ammonium solution, carbon tetrachloride, ammonium hydroxide, potassium cyanide, hydroxylamine hydrochloride solution, duluzone solution, buffer pH2.</p> <p><b>For Arsenic:</b> Distillation apparatus, conical flask, sulphuric acid, potassium permanganate solution, ferrous sulphate, Hydrochloric acid, potassium bromine solution, aluminium stripes, tin chloride solution, test paper.</p>
11.	Heavy Metal (as Pb) (C. 3.3 & Table 1) (Cl. 16 of IS 1699)	<p>Weighing balance, Nessler tubes, Hot plate, pH Meter (preferable) /pH indication paper, Bunsen burner, Crucible, Muffle furnace, Steam bath, Litmus paper, Filter paper, Ammonium solution, acetic acid solution, standard lead solution, lead nitrate stock solution, measuring beaker/cylinder, weighing balance, hydrogen sulphide, pH indicator, paper.</p>

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

**ANNEX B**

**SCHEME OF INSPECTION AND INSPECTION  
FOR PHOSPHORIC ACID, FOOD GRADE  
ACCORDING TO IS 10508 : 2007**

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 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 Phosphoric Acid, Food Grade 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 securely packed in well-filled containers with minimum access to air. The containers shall be such as to preclude contamination of the contents with metals or other impurities.
  - 3.2 **Storage** – The material shall be stored in a cool and dry place so as to avoid excessive exposure to heat.
  - 3.3 **Marking** – Each container shall be legibly and indelibly marked with the information mentioned under clause 4.3 of IS 10508. In addition, the following details shall be mentioned on each container legibly and indelibly:
    - a) BIS Licence No. CM/L\_\_\_\_\_.
    - b) BIS website details i.e – “For details of BIS Certification please visit [www.bis.gov.in](http://www.bis.gov.in)”
4. **CONTROL UNIT-** For the purpose of this Scheme, material produced from the same consignment of raw material and produced and packed in one shift shall constitute a control unit.

5. **LEVELS OF CONTROL** - The analysis and tests as indicated in Table 1 and the levels of control specified therein, shall be carried out on the whole production of the factory which is covered by this scheme and appropriate records and charts 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.
  - 5.2 **HYGIENIC CONDITIONS** – The material shall be processed, packed, stored and distributed under hygienic conditions in licensed premises (see IS 2491).
6. **REJECTION**- 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**

<b>(1)</b>				<b>(2)</b>	<b>(3)</b>		
<b>Test Details</b>				<b>Test equipment requirement R: required (or) S: Sub-contracting permitted</b>	<b>Levels of Control</b>		
<b>Clause</b>	<b>Requirements</b>	<b>Test Methods Cl. Ref.</b>	<b>Test Method IS</b>		<b>No. of Sample</b>	<b>Frequency</b>	<b>Remarks</b>
3.1	Description	3.1	IS 10508	R	One	Each Control Unit	
3.2	Test for Phosphate	3.2	IS 10508	R	One	--do--	
3.3 & Table 1	Purity as H <sub>3</sub> PO <sub>4</sub>	Annex A	IS 10508	R	One	--do--	
--do--	Nitrates	Annex B	IS 10508	R	One	--do--	
--do--	Volatile acids	Annex C	IS 10508	R	One	--do--	
--do--	Chlorides	Annex D	IS 10508	R	One	--do--	
--do--	Sulphates percent by mass	Annex E	IS 10508	R	One	--do--	
--do--	Fluoride	Annex F	IS 10508	R	One	--do--	
--do--	Arsenic (as As)	15	IS 1699	R	One	--do--	
--do--	Lead (as Pb)	15	IS 1699	R	One	--do--	
--do--	Heavy metals	16	IS 1699	R	One	--do--	

Note-1: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control and submit his own levels of control in column 3 with proper justification for approval by BO Head.

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.