

IGS-CH-040(0)

2002

27



National Iranian Gas Co.

مدیریت پژوهش و فناوری

Research and Technology Management

امور تدوین استانداردها

Standardization Division

IGS

Iranian Gas Standards

Specification for :

مشخصات فنی :

Trisodium Phosphate ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$)

تری سدیم فسفات

APPROVED

FOREWORD

This standard is intended to be mainly used by **NIGC** and contractors and has been prepared on interpretation of recognized standards , technical documents , knowledge ,backgrounds and experiences in gas industries at national and international levels.

Iranian Gas Standards (**IGS**) are prepared , reviewed and ammended by technical standard committees within NIGC Standardization Div. and submitted to the **NIGC's "STANDARDS COUNCIL"** for approval .

IGS Standards are subject to revision , amendment or withdrawal , if required , thus the latest edition of **IGS** shall be checked/inquired by **NIGC** users .

This standard must not be modified or altered by the end users within **NIGC** and her contractors. Any deviation from normative references and/or well known manufacturers specifications must be reported to Standardization div.

Any comments from concerned parties on **NIGC** distributed **IGS** are welcome to technical standards committees and will receive serious attention and consideration should a revision to standards is recommended .

GENERAL DEFINITIONS :

Throughout this standard the following definitions , where applicable , should be followed :

1- "**STANDARDIZATION DIV.**" has been organized to deal with all aspects of industrial standards in NIGC . Therefore , all queries for clarification or amendments are requested to be directed to the mentioned div.

2- "**COMPANY** " : refers to national iranian gas company .

3- "**SUPLIER**" : refers to a firm who will supply the service , equipment or material to igs specification whether as the prime producer or manufacturer or a trading firm .

4- "**SHALL**" : is used where a provision is mandatory.

5- "**SHOULD**" : is used where a provision is advised only.

6- "**MAY**" : is used where a provision is completely discretionary.

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پیشگفتار

- ۱- این استاندارد/دستورالعمل بمنظور استفاده اختصاصی در شرکت ملی گاز ایران و شرکتهای فرعی وابسته تهیه شده است.
- ۲- شرکت ملی گاز ایران در مورد نیازهای عمومی از استانداردهای وزارت نفت (IPS) و در مورد نیازهای اختصاصی از استانداردهای اختصاصی خود (IGS) استفاده می نماید.
- ۳- استانداردهای شرکت ملی گاز ایران (IGS) توسط کمیته های تخصصی استاندارد متشکل از کارشناسان بخش های مختلف و یا مشاور تهیه می شود و توسط شورای استاندارد (منتخب هیئت مدیره شرکت ملی گاز ایران) به تصویب میرسند.
- ۴- در تنظیم متن استانداردهای (IGS) از کلیه منابع شناخته شده استاندارد، اطلاعات فنی - تخصصی مربوط به صنایع گاز دنیا، مشخصات فنی تولیدات سازندگان معتبر جهانی و نیز از نتیجه تحقیقات و تجربیات کارشناسان و متخصصان داخلی بر حسب مورد استفاده می شود. همچنین بمنظور استفاده هر چه بیشتر از تولیدات داخلی قابلیت های سازندگان داخلی نیز مورد توجه قرار میگیرد.
- ۵- استانداردها از طریق پایگاه اینترنتی شرکت * و یالوح فشرده (CD) در اختیار واحدها و کاربران قرار می گیرد .
- ۶- استانداردها بطور متوسط هر ۵ سال یکبار و یادر صورت ضرورت زودتر، مورد بازنگری و بروزرسانی قرار میگیرند. بنابراین کاربران باید همیشه آخرین نگارش را مورد استفاده قرار دهند.
- ۷- هرگونه نظر و یا پیشنهاد اصلاح در مورد استانداردها مورد استقبال و بررسی قرار خواهد گرفت و در صورت تأیید، استاندارد مربوطه نیز مورد تجدیدنظر قرار خواهد گرفت .

تعاریف عمومی

در متن استانداردهای (IGS) از تعاریف و اصطلاحات زیر استفاده میشود.

- ۱- "شرکت" (COMPANY): منظور از شرکت "شرکت ملی گاز ایران" و یا شرکتهای فرعی وابسته میباشد.
- ۲- "فروشنده" (SUPPLIER/VENDOR): به فرد یا موسسه ای اطلاق میگردد که تعهدی رانسبت به شرکت تقبل نموده است.
- ۳- "خریدار" (PURCHASER): منظور از خریدار "شرکت ملی گاز ایران" و یا شرکتهای فرعی وابسته میباشد.
- ۴- "SHALL": در مواردی بکاربرده میشود که انجام خواسته مورد نظر اجباری است
- ۵- "SHOULD": در مواردی بکاربرده میشود که انجام خواسته مورد نظر ترجیحی و درعین حال اختیاری است
- ۶- "MAY": در مواردی بکاربرده میشود که انجام کار به شکل مورد بحث نیز قابل قبول میباشد

IGS-CH-040

1. SCOPE

This standard gives the procedure for purchasing flake or crystalline , as required , trisodium phosphate ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$) for use in industrial cleaning.

2. REFERENCES

Throughout this standard the following standard is referred to. The editions of this standard that is in effect at the time of issues of this standard (year 2001) shall , to the extent specified herein , form part of this standard . The applicability of changes in standard that occur after the date of this standard shall be mutually agreed upon by the purchaser and the supplier.

ASTM (American Society for Testing and Materials)

D 501-85 “ Methods of Sampling and Chemical Analysis of Alkaline Detergents “

3. DEFINITIONS

- 3.1 Approval test sample:** The approval test sample is the sample submitted to the purchaser for approval .
- 3.2 Approval tests:** Approval tests are the laboratory tests performed on the approval test sample by the purchaser.
- 3.3 Approved Products:** The approved products are those products whose approval test samples have been laboratory tested and have passed the approval tests and have been listed on or approved for being listed as approved products .
- 3.4 Approved suppliers:** The suppliers of approved products will be known as approved suppliers.
- 3.5 Qualified products :** The qualified products mean the approved products proposed with respect to this standard which meet all requirements of this standard .
- 3.6 Qualified supplier(s) :** The supplier of qualified products will be known as the qualified supplier(s).

3.7 Final supplier : The successful bidder is known as the final supplier.

4. REQUIREMENTS

4.1 Qualification

The suppliers and their products shall pass the following qualification.

4.1.1 Approved products

See 3.3.

4.1.2 Approved suppliers

See 3.4.

4.1.3 Qualified products

See 3.5.

4.1.4 Qualified supplier(s)

See 3.6.

4.1.5 Final supplier

See 3.7.

4.2 Chemical Requirements

Trisodium phosphate shall conform to the following requirements when tested in accordance with specified test methods.

Characteristic	Unit	Value		Test Method
		Min	Max	
Calculated as Na ₃ PO ₄ , 12H ₂ O, from P ₂ O ₅ ,	%wt	97	—	ASTM D 501
Total alkalinity to methyl orange , as Na ₂ O	%wt	16	19	ASTM D 501
Phosphoric anhydride (P ₂ O ₅)	%wt	18.1	-----	ASTM D 501
Matter insoluble in water	%wt	-----	0.1	ASTM D 501

4.3 Sampling

Trisodium phosphate shall be sampled in accordance with ASTM D 501 .

4.4 Formulation Changes

The presented material(s) for supply shall be accepted only for the formulation for which approval tests are made. Any change(s) in formulation, shall cause for designating the material as a new material which shall not be considered accepted. The supplier may submit the modified material for acceptance under this standard, using a new supplier's designation.

4.5 Approval Tests

The approval tests (see 3.2) of the trisodium phosphate will consist of the tests of this standard (see 4.2).

4.5.1 Approval test sample

Approval test sample shall consist of sufficient amount of material proposed furnished under this standard. Sample shall be forwarded to the purchaser. Sample shall be plainly identified by securely attached durable tags or labels marked with following information :

Sample for Qualification Test (or approval test)

Brand Name

Manufacturer Name and Address

Material Designation (product ref/code)

Date of Production

The supplier shall also provide the operational information with each sample as follows:

Description and Function(s)

Instruction for Use

Handling

Storaging

Shelflife

Others

4.6 Production Tests

Production tests are the ones normally performed by the producer on samples taken from production run during the production of trisodium phosphate according to its own quality standard. The supplier shall provide the production tests reports to the mentioned standard.

4.7 Quality Assurance

The supplier shall provide a quality assurance certificate to ensure that the trisodium phosphate proposed complies with this standard.

4.8 Economical Aspects

The proposed trisodium phosphate shall meet the requirements of clause 4.1 at the lowest cost. The cost evaluation will be made by the purchaser, with reference to the performance of the product (see 4.1), including cost of product and other costs such as forwarding shipment , storage , operation and so on.

5. INSPECTION

- The supplier shall be responsible for carrying out all the tests and QA's required by this standard (see 4.2) , using his own or other reliable facilities , and he shall maintain complete records of all such tests and qualifications. Such records shall be available for review by the purchaser. The supplier shall furnish to the purchaser a certificate of quality stating that each lot has been sampled , tested , and qualified in accordance with this standard and has been found to meet the requirements specified.
- An inspection lot shall consist of a batch (or batches) of production processed from the same material components , and offered for inspection at one time .
- The supplier shall afford the purchaser's inspector all reasonable facilities required for inspection of each batch of production in accordance with this standard. Such inspection in no way relieves the supplier of his responsibilities under the term of this standard.
- The purchaser reserves the right to perform any inspections set forth in this standard where such inspections are deemed necessary to assure that supplies and services conform to the prescribed requirements.
- The purchaser's inspector reserve the right to have access to the materials subject to inspection for the purpose of witnessing selection of the samples, preparation of the test samples and performance of the test(s) . For such tests , the inspector reserves

the right to indicate the sample(s) from which the quantities will be taken in accordance with the provisions of this standard.

6. MARKING

6.1 Marking of Containers

Each container shall be legibly marked at least with following information:

Brand Name

Manufacturer's Name and Address

Purchaser's Name and Address

MESC No.

Standard Specification (IGS-MS-CH-040(0):2001)

Handling Guidelines

Storing

Date of Manufacture

Batch No.

6.2 Instruction

Supplier shall provide complete sets of instruction for use.

7. PACKAGING

The trisodium phosphate shall be suitably packaged in 25 kg polyethylene -bags and protected against all damages or defects which may occur during handling and seaworthy shipment.

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