



HIP
PETROHEMIJA

BP0402-SC060

Version: 6

Synthetic Rubber Factory Elemir
Petrohemija d.o.o. Pančevo

Identification number:

Date:

INPUT MATERIAL SPECIFICATION – Tetra-sodium salt ethylenediaminetetraacetic acid

I INFORMATION ON MANUFACTURER

II PRODUCT NAME - Tetra-sodium salt ethylenediaminetetraacetic acid

III SUBJECT AND PURPOSE OF THIS SPECIFICATION

This specification defines the required properties of tetra-sodium salt ethylenediaminetetraacetic acid, which is used in the SBR production process in FSK Elemir, for emulsifier and activator preparation, and it serves as a basis for assessment of input material quality conformance with the specified requirements i.e. as an acceptance criterion.

IV TECHNOLOGICAL PROCESS DESCRIPTION

Tetra-sodium salt ethylenediaminetetraacetic acid is used in the SBR production plant for preparation of emulsifiers and activators which are used in the cold emulsion copolymerization.

V PRODUCT USE

Tetra-sodium salt ethylenediaminetetraacetic acid is used in the SBR plant for emulsifier and activator preparation.

The polymerization reaction begins by initiating the decomposition of initiator (peroxide) into free radicals. Free radicals are generated by the decomposition of peroxide in the presence of iron ions Fe^{2+} .

Polymerization rate depends on the rate of the initiator decomposition (creation of free radicals), it is necessary to maintain a certain polymerization rate and therefore it is necessary to maintain a certain concentration of Fe^{2+} ions in the emulsion. A constant concentration of Fe^{2+} is maintained thanks to the tetra-sodium salt ethylenediaminetetraacetic acid which forms a complex compound with Fe^{2+} ions. The binding of Fe^{2+} in a complex form prevents the formation of ferric hydroxide ($Fe(OH)_3$) in the emulsifier.

It is also used in the preparation of emulsifiers as an agent that forms complexes with unwanted metal ions and thus neutralizes their effect.

VI PRODUCT QUALITY AND COMPOSITION

Technical properties of tetra-sodium salt ethylenediaminetetraacetic acid:

Table 1 shows the specified technical properties of tetra-sodium salt ethylenediaminetetraacetic acid, which must be checked before delivery acceptance, in accordance with the FSK Input Materials and Chemicals Inspection and Test Plan (BP0402-PK457). Technical properties serve as a basis for assessment of product quality conformance with the specified quality requirements, i.e. they present the product acceptance criteria.

Table 1.

PHYSICAL-CHEMICAL PROPERTIES:				
Ord. No.	PROPERTY	SCOPE OF ALLOWABLE VALUES	UNIT	TEST METHOD
1.	EDTA-Na ₄ content	81.0 – 85.0	wt %	FSK int. 10.2.13.1
2.	Water content	max 2.0	wt %	FSK int. 10.2.13.2
3.	pH value of 1% solution	11.2 – 11.4		FSK int. 10.1.3
4.	Appearance	White powder		

VII TRANSPORT

- Road or railway transport
- Alternative delivery method: NONE

VIII DELIVERY

Form (state) of input material: solid (powder)

Delivery should be in 25 kg sacks – three ply natron with PE bag

Each packaging unit must be accompanied by the following documents:

- Test report
- Safety data sheet
- Delivery note

IX LABELLING

Each packaging unit must have clearly legible information on it providing the following:

- Product name
- Manufacturer's data (Company name)
- Lot/batch number
- Packaging unit net mass
- Production date
- Expiry date

X PRODUCT ACCEPTANCE CRITERIA

X.1. Quality conformance with requirements

A product conforms to the specified requirements if its properties are within the scope of allowable values in all the points, i.e. if all the requirements of this specification are fulfilled, and if the industrial test has been passed successfully.

X.2. Consistent quality deliveries

The input material delivery must comply with the approved sample for purchasing. A sample for purchase approval is inspected in accordance with the FSK Inspection and Test Plan for Input Raw Materials and Chemicals.

A manufacturer is obliged to submit information about any modification(s) in its production process and change(s) referring to its production location, as well as to deliver the samples produced under the new conditions.

After examining the documents and testing a sample, provided the industrial test gives positive result, FSK will give an approval for input material application and deliveries.

X.3. Delivery acceptance criterion

The criterion for delivery acceptance shall be satisfied if the input inspection certifies that the quality and quantity comply with the accompanying documents and if the requirements of this specification are fulfilled in all the points.

Prepared by:	Controlled by:			Approved by:	Date:
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