



RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION
TUBE DEPT. STANDARDIZING EEE
HARRISON, N. J. LANCASTER, PA.

DATE Aug. 26, '49 PAGE 1

STANDARDIZING
NOTICE

34-37-2B

SUBJECT TEST FOR NITRATES IN CARBONATES
Process Specifications

SUPERSEDED DATE 11/6/42

A maximum limit for the nitrate content of a carbonate is controlled by washing the slurry a definite amount as specified in the manufacturing process. After washing the precipitate with water, a test for nitrate is made on the final wash water. The nitrate test is only a check on the efficiency of the washing, the final % of nitrates being determined by analyzing the carbonate after being dried.

This test for nitrates consists of comparing the color of the wash water with the color of a standard solution containing 0.04% nitrate, which amount corresponds to the 0.07% limit for nitrate in the dried carbonate.

1. EQUIPMENT

- a. Beakers, test tubes, etc., as required.

2. MATERIALS

A66	Acetic Acid, Reagent	Sulphanilic Acid, C.P.
S22	Sulfuric Acid, Reagent	Solid Alpha-naphtholamine, C.P.
Z619	Powdered Zinc, Reagent	Sodium Nitrate, C.P.
W7	Distilled Water	

ACETIC ACID HANDLING PRECAUTIONS: See S.N. 33-2-7C.

SULFURIC ACID HANDLING PRECAUTIONS: See S.N. 33-2-7C.

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3. PREPARATION OF SOLUTIONS

a. Cleaning Solution

Saturate a quantity of sulfuric acid with sodium nitrate. All apparatus (beakers, test tubes, etc.) before being used to make the following preparations, or to make a test, must be rinsed with this cleaning solution, and then very thoroughly rinsed with distilled water.

b. 2 Normal Acetic Acid

(1) Composition:

Glacial Acetic Acid	- - - - -	11.8 cc.
Distilled Water	- - - - -	88.2 cc.

c. Peter Griess Reagent

(1) Composition:

Sulphanilic Acid	- - - - -	0.5 g.
2 Normal Acetic Acid	- - - - -	150 cc.
Solid Alpha-naphtholamine	- - - - -	0.2 g.
Distilled Water	- - - - -	20 cc.

- (2) Dissolve sulphanilic acid in acetic acid.
- (3) Boil alpha-naphtholamine in distilled water.
- (4) Pour off colorless liquid from bluish violet residue, adding it to the colorless acetic-sulphanilic acid solution.
- (5) Mix above solutions thoroughly.

d. Standard 0.04% Nitrate Solution

(1) Composition:

Sodium Nitrate	- - - - -	0.548 g./liter of solution
Distilled Water	- - - - -	As Req'd to make 1 liter

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23-498-17-62

of solution PCL11564-118AK



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4. PROCEDURE

- a. To equal volumes (approx. 1 cc.) of wash water to be tested, and standard nitrate solution in separate test tubes, add a small amount of powdered zinc and equal volumes (approx. 1 cc.) of Griess Reagent.
- b. Add to each tube equal volumes (approx. 2 cc.) of glacial acetic acid.
- c. Shake and allow to stand for approx. 5 minutes.
- d. A pink color indicates presence of nitrates. If depth of color in the wash water solution is equal to or less than that of the standard solution, the nitrate content of the carbonate should be within specification.

ENGINEERING SECTION
STANDARDIZING