

Food Safety and Standards Authority of India  
(A Statutory Authority established under the Food Safety & Standards Act, 2006)  
(Regulatory Compliance Division)  
FDA Bhawan, Kotla Road, New Delhi-110 002

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Dated, the 16<sup>th</sup> April, 2026

To,

1. The Commissioner of Food Safety of All States/UTs,
2. All Regional Directors,
3. All Central Licensing Authorities.

**Subject: Monitoring the Sale of Fresh Fruits for the Use of Unauthorized or Prohibited Artificial Ripening Agents - Regarding.**

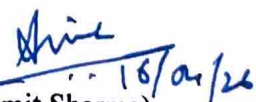
Madam/Sir,

In reference to the advisories issued by FSSAI regarding artificial ripening of fruits dated 16<sup>th</sup> May 2025 and 03<sup>rd</sup> April 2023), it is reiterated that use of calcium carbide (“masala”) is prohibited under Regulation 2.3.5 of the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011, for use as artificial ripening agent in fruits like mangoes, bananas, and papayas etc. as it poses serious health risks such as difficulty in swallowing, vomiting, skin ulcer, etc.

2. Furthermore, it has come to notice that certain FBOs are engaging in the practice of dipping fruits in ethephon solution for artificial ripening of bananas and other fruits. FSSAI's "Guidance Note on Artificial Ripening of Fruits Ethylene gas - A Safe Fruit Ripener" strictly prohibits the direct contact of fruits/vegetables with ethylene (in powder or liquid form). This Guidance document outlining all aspects of the artificial ripening process using ethylene gas is available at the following link:  
[https://fssai.gov.in/upload/uploadfiles/files/Guidance\\_Note\\_Ver2\\_Artificial\\_Ripening\\_Fruits\\_03\\_01\\_2019\\_Revised\\_10\\_02\\_2020.pdf](https://fssai.gov.in/upload/uploadfiles/files/Guidance_Note_Ver2_Artificial_Ripening_Fruits_03_01_2019_Revised_10_02_2020.pdf)

3. In view of the above, all Commissioners of Food Safety of States/UTs and Regional Directors of FSSAI are advised to intensify inspections and maintain strict vigilance over fruit markets/mandis, as well as storage facilities, wholesalers, and distributors, particularly where seasonal fruits are stored and the use of substances like “masala” is suspected. Special enforcement drives may be undertaken to curb the illegal use of calcium carbide or other non-permitted ripening agents, wax, and synthetic colours. The presence of calcium carbide on the premises or alongside fruit crates may be treated as circumstantial evidence for initiating prosecution against the FBO under Section 59 read with Section 3(1)(zz)(iii) or Section 3(1)(zz)(vii) of the FSS Act, or other applicable provisions.

4. In addition to the actions mentioned above, the Enforcement Official may also use strip paper tests (procedure enclosed) to detect the presence of acetylene in godowns or ripening chambers for the artificial ripening of fruits.

  
(Dr. Amit Sharma)  
Executive Director  
(Compliance Strategy)

Copy for information to: -

1. PA to CEO, FSSAI
2. SBCD, FSSAI
3. CITO-for uploading on the FSSAI website

**DETECTION OF ACETYLENE IN GODOWN OR TREATMENT CHAMBER FOR  
DETECTION OF ARTIFICIAL RIPENING OF FRUITS**

Presence of acetylene in the closed room or treatment chamber can be detected by keeping filter paper strips dipped in reagent solution. Turning the colour of filter paper strip to red brown or brown violet indicates the presence of acetylene.

**REAGENTS**

1. **Solution 1:** 1.5 g. of cupric chloride and 3g of ammonium chloride in 20 ml concentrated ammonia, dilute to 50ml. with water.
2. **Solution 2:** 5 g. of hydroxylamine hydrochloride in 50 ml water.
3. **Reagent solution:** Mix one ml of solution 1 and 2 ml. of solution 2.

**PROCEDURE**

Dip the Whatman No. 1 filter paper strips in reagent solution and expose them to the atmosphere at the godown. Turning of filter paper strip to red-brown or brown-violet indicates the presence of acetylene gas.

The same principle could be used for quantitative determination of acetylene. Since no residue is left on/in the fruit, it is not possible to, carry out the test on the fruit. The qualitative test could be performed at godown level.

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