

**THE HON'BLE THE CHIEF JUSTICE SATISH CHANDRA SHARMA**  
**AND**  
**THE HON'BLE SRI JUSTICE ABHINAND KUMAR SHAVILI**

**WRIT PETITION (PIL) No.176 OF 2020 AND**  
**WRIT PETITION Nos.3272 AND 3719 of 2021**

**COMMON ORDER:** *(Per the Hon'ble the Chief Justice Satish Chandra Sharma)*

These cases are heard together and are being disposed of by this common order as the issue involved in all these cases is similar.

**W.P. (PIL) No.176 of 2020:**

2. The petitioners have filed the present petition by way of Public Interest Litigation challenging the directions issued by the Food Safety and Standards Authority of India (FSSAI), dated 16.08.2018 permitting the use of Ethephon for artificially ripening of fruits. The first petitioner before this Court is a Director of College of Post Graduate Studies, Secunderabad and teaches 'sales and marketing' and the second petitioner is a retired employee of A.P.Transco and a Trade Union Leader, as stated in the writ petition. They have stated that they are public spirited persons and they are engaged in ensuring strict implementation of laws, especially those relating to safety of food.

3. The petitioners have stated that Ethephon is an insecticide and is a hazardous substance. It is a corrosive phosphoric acid and an organophosphorous chemical and the Ethephon sachets, which are being sold in the market for

ripening of the fruits, are highly risky. There is a possibility of leakage of Ethephon from porous sachets resulting in health hazards. Ethephon is recognised as potentially causing burns to the mouth, oesophagus and large number of deceases and therefore, as it is an insecticide, the same cannot be permitted to be used by issuing directions by the FSSAI. It has been further stated that Ethephon is registered as insecticide keeping in view Section 3(e)(i) and 3(e)(iii) of the Insecticides Act, 1968. Section 21(2) of the Food Safety and Standards Act, 2006 specifically states that no insecticide other than the registered and approved fumigants can be used directly on food. It has also been stated that the Regulation 2.3.14(1) of the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011 (hereinafter referred to as 'FSS (Prohibition) Regulations') prohibits any person from storing or exposing any insecticide like Ethephon. Therefore, the directions issued by FSSAI are in violation and *ultra vires* Section 21(2) of the Food Safety and Standards Act as well as Regulation 2.3.14(1) of FSS (Prohibition) Regulations. The petitioners have filed various documents to establish that Ethephon is a hazardous insecticide and by no stretch of imagination, it can be permitted to use for ripening of the fruits.

4. The application for intervention i.e., I.A.No.1 of 2021 in W.P. (PIL) No.176 of 2020 has been filed by one Mr. Ravinder Kumar Nagpal, who is an importer of Ethephon and has stated that earlier carbide gas was used for ripening of fruits and after a thorough study, the FSSAI has banned the use of carbide gas or acetylene gas due to its potential health hazard and therefore, the FSSAI through a Notification dated 23.08.2016 has permitted the use of Ethylene gas at a concentration upto 100 ppm for artificially ripening fruits. The petitioners' contention is that the Ethylene gas can be obtained through various sources. The Ethephon has been encapsulated with fillers and yields Ethylene gas when soaked in water for the purpose of ripening fruits. It is nobody's case that Ethephon is sprayed over the foods for the purpose of ripening. The Ethylene Ripener Sachets are not raw Ethephon and contains upto 15-25% Ethephon encapsulated in fillers, consisting of magnesium and silicon and a Test Report has also been brought on record, dated 18.06.2019, which was carried out at the behest of the Deputy Commissioner, Customs, SIIB, Import. It has been further stated that Ethephon is packed in 40-60 micron triple layered cellulose membrane paper and its use is permissible and it is not at all being mixed by food as defined under the Food Safety and Standards Act. It has been further stated that a writ petition was preferred before the Delhi High Court

i.e., W.P.No.13025 of 2018 praying for quashment of guideline No.4 of 2018 issued by the FSSAI regarding the usage of Ethephon powder and the Delhi High Court while disposing of the writ petition has directed the FSSAI to re-visit the guidelines with further discussion with experts. The matter was discussed in the 20<sup>th</sup> Scientific Panel on Fruits and Vegetables held on 20.07.2020 and the Committee has approved derivatives of Ethephon to be a safe source of Ethylene gas. The contention of the Intervener is that the Ethephon sachets are being used for the purpose of producing Ethylene gas and therefore, the petition filed by the petitioners deserves to be dismissed.

5. Another application for intervention i.e., I.A.No.2 of 2021 in W.P. (PIL) No.176 of 2020 has been filed by M/s.Heighten Innovative Solutions Private Limited, which is registered under the Companies Act and is engaged in the business of applying science and technology based solutions to reduce use of synthetic chemicals, including those in the pesticides/insecticides class, to promote organic and natural food production and consumption, reduce environmental and adverse health impacts on human beings and animals, and other life forms and promote development, pursue invention and innovation in the fields of agricultural and horticultural production and environmental protection. It is stated in the

affidavit accompanying the application that it produces and markets En-Ripe for ripening of the climacteric fruits and En-Ripe capsulates ethylene gas which acts as a natural phytohormone that is need for ripening, that En-Ripe has been evaluated by the Scientific Panel of FSSAI and has been deemed to be a safe source of ethylene for artificial ripening of fruits in crates and boxes and that En-Ripe is comprised only of biologically safe ingredients and is a novel product. The other averments in this application are similar to the averments in I.A.No.1 of 2021 and therefore, this Court is of the opinion that they need not be reproduced to avoid repetition. It prays for dismissal of the writ petition.

6. A counter affidavit has been filed on behalf of the respondent No.1/Food Safety and Standards Authority of India. It has been stated that various orders and regulations of FSSAI are based upon expert opinion of the Scientific Panel and Scientific Committee of FSSAI. It has been further stated that FSS (Prohibition) Regulations was published in the Gazette on 23.08.2016 and various representations were received by FSSAI with regard to implementation and clarification in respect of source of Ethylene gas, use of Ethephon to generate Ethylene gas, measurement of Ethylene gas concentration etc. It has been further stated that the Scientific Panel on Fruits and Vegetables in its 11<sup>th</sup> Meeting

held on 05.01.2018 recommended that a Working Group may be considered after approval of the Scientific Committee and after great deliberations, an order was passed on 16.08.2018 regarding grant of permission for use of Ethephon for artificial ripening of fruits and in exercise of powers conferred under Section 16(5) of the Food Safety and Standards Act. It has been further stated that Ethephon which produces Ethylene gas is used to promote fruit ripening, abscission, flower induction and other responses. It is a systematic plant growth regulator. It has been stated that Ethephon, though registered with Central Insecticide Board and Registration Committee, produces Ethylene, which is a growth hormone and is commonly used in various crops, such as pineapple, citrus fruits. Details have been furnished by the respondents in respect of toxicology. It has been further stated that Ethephon is registered as insecticide under the Insecticide Act, 1968. It is being used as a source of Ethylene by packing it in sachets where ripening chambers are not available and its use is permitted only to curb the illegal use of carbide in the country. Various safety checks/tests carried out from time to time in respect of usage of Ethephon have already been stated in the counter and prays for dismissal of the writ petition.

7. A rejoinder has been filed by the petitioners and much reliance has been placed upon the Insecticides Act as well as Insecticides Rules, 1971. It has been argued that Rule 10C of the Insecticides Rules, 1971 prohibits manufacture, store or sale of insecticides in the same building where any articles consumable by human beings. Reliance has also been placed upon the FSS (Prohibition) Rules and much has been argued that the FSSAI does not have an authority to issue executive instructions, circulars, orders contrary to the provisions contained under the Food Safety and Standards Act.

8. This Court has appointed Sri S.Niranjan Reddy, learned Senior Counsel, as *amicus curiae*, who has assisted this Court during the hearing and also filed a brief note on Ethephon. It has been stated that Ethephon is a chemical substance and is also known by its synonym 'Ethrel'. This is a substance, which is classified as dangerous and must be handled in a regulated manner. Ethephon is widely used as an insecticide across the globe and in the Indian context, the Insecticides Act also recognises 'Ethrel' (synonym for 'Ethephon') as an insecticide in the Schedule of the Insecticides Act read with Section 3(e) of the Insecticides Act. It has been further stated in the brief note that a perusal of the Rule 10C of the Insecticides Rules, Section 21(2) of the Food Safety and Standards Act as well as the Regulation

2.3.1 of Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011, makes it clear that an insecticide neither can be used on an article consumable by human being nor can it be stored next to an article consumable by human beings. Hence, using Ethephon, which is a recognised insecticide, on a fruit, which is consumable by human beings, is clearly contrary to the Food Safety and Standards Act and the Rules framed thereunder.

9. Heard the learned counsel for the parties at length and perused the records. The matters are being disposed of with the consent of the parties at admission stage itself.

10. The facts of the case reveal that earlier carbide gas was used for the purpose of ripening of fruits and the FSSAI after scientific study on the subject, has banned the use of carbide gas and Acetylene gas due to its potential health hazards. The FSSAI has thereafter issued a Notification after conducting scientific research to permit the use of Ethylene gas at a concentration upto 100 ppm for artificial ripening of the fruits and a Notification was issued on 23.08.2016. The Ethylene gas is used for the purpose of ripening of the fruits. It is nobody's case that the FSSAI has permitted spraying of Ethephon or the farmers/traders are spraying Ethephon over the fruits and on the contrary a very systematic activity is permitted for use of Ethephon in powder form to obtain

Ethylene gas. Before the Delhi High Court, a writ petition was preferred in W.P.No.13025 of 2018 for quashment of Guideline Note No.04 of 2018 and the Delhi High Court while disposing of the aforesaid writ petition has directed the FSSAI to re-visit the guidelines with further discussion with experts and as a consequence, the matter was discussed by the 20<sup>th</sup> Panel on Scientific on 20.07.2020. The FSSAI in exercise of powers conferred under Section 16(5) of the Food Safety and Standards Act has permitted use of Ethephon for artificial ripening of fruits vide Order dated 16.08.2018 and the same is reproduced as under:-

“File No: Stds/FVS/SP/13/FSSAI-2018  
**Food Safety and Standards Authority of India**  
(A Statutory Authority established under Food Safety and  
Standards Act, 2006)  
**FDA Bhavan, Kotla Road, New Delhi-110002**

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Dated: 16<sup>th</sup> August, 2018

**Subject: Direction under Section 16 (5) of Food Safety and Standards Act, 2006 regarding permission for use of ethephon for artificial ripening of fruits - reg.**

In exercise of the powers conferred by section 92 of Food Safety and Standards Act, 2006 (34 of 2006), the Food Safety and Standards Authority of India has framed the Food Safety and Standards (Prohibition and Restrictions on Sales) Second Amendment Regulations, 2016 relating to use of ethylene gas for artificial ripening of fruits and the same was uploaded on website on 30.08.2016.

2. Several representations have been received at FSSAI regarding clarification on use of ethephon as source of ethylene gas for artificial ripening of fruits.

The issue was examined and it is clarified that ethephon in powder form may also be used as a source of ethylene gas provided that it shall be packed in sachets and these sachets containing ethephon in powder form shall not come in direct contact with fruits.

3. A detailed guidance document on artificial ripening of fruits has also been prepared and is now available on FSSAI website.

4. This issues with the approval of Competent Authority in exercise of the power vested under Section 16(5) of Food Safety and Standards Act, 2006.

**(P.Karthikeyan)**  
**Assistant Director (Regulations/Codex)**

To

1. The Commissioners of Food Safety of all States/UTS
2. All Authorized Officers, FSSAI
3. All Central Designated Officers, FSSAI

Copy to:

1. PPS to Chairperson, FSSAI
2. PS to CEO, FSSAI
3. CMSO, FSSAI
4. Advisor (Regulations), FSSAI
4. Advisor (QA/Labs), FSSAI
5. IT Division, FSSAI with request to upload on website”

11. The Guideline Note No.4 of 2018 issued by the FSSAI has laid down ‘Protocol’ for use of Ethylene gas from various sources and clause (5) of the aforesaid Note reads as under:-

“5. Protocol for application of Ethylene gas from various sources

- (i) Ethylene gas cylinders:

- a. Maintain the temperature and RH inside the empty ripening chamber as per Table 1, depending upon the commodity.
- b. Once desired temperature and RH is achieved, place the crates containing fruits into the ripening chamber. Temperature of fruits should be as close as possible to the temperature mentioned in Table 1, above.
- c. Introduce ethylene gas into the chamber (upto 100 ppm) through the gas cylinders.
- d. Monitor CO<sub>2</sub> inside the chamber and maintain it below 5000 ppm.
- e. Maintain the temperature, RH, concentration of ethylene gas and CO<sub>2</sub> levels as suggested above for 24-48 hours.
- f. Remove the fruits from the ripening chamber and store in another chamber at optimum storage temperature till further use.
- g. Avoid excess of ethylene accumulation in the chamber for desired results.

...

(iii) Sachet containing 2 chloroethylphosphonic acid (Ethephon) in powder form:

Ethephon in powder form may be used for artificial ripening of fruits. It shall be packed in 40-60 micron cellulose membrane paper or its equivalent in form of small sachets. The ripening mixture in the sachets should be as per the composition recommended below. This ripening method may be used where ripening chambers are not available or for in transit ripening. The sachet must generate ethylene gas only and should not contain any traces of calcium carbide or acetylene gas.

Composition: 2 chloroethylphosphonic acid (Ethephon), and combination of alkali (oxides and carbonates of magnesium and calcium, sodium and

potassium carbonates and bicarbonates, magnesium silicates).

- a. Keep the fruit in air tight boxes or make the boxes air tight by paper etc.
- b. Take ethylene forming sachet [(500 mg containing 50 mg 2 chloroethyl phosphonic acid (Ethephon)] and dip it in water for 5-10 seconds.
- c. Place the water soaked sachet in perforated plastic box (approximately 5cm x 5 cm x 5 cm size).
- d. Place this small plastic box containing the sachet into the fruit box/crate (approximately at the centre of box/crate) having volume of 2.7 m<sup>3</sup>, which should be sufficient for 10 kg fruits. The ethylene gas generated will not exceed 100 ppm.
- e. Remove the small plastic box containing the sachet after 24 hours.”

12. Much has been argued before this Court that the Ethephon is a chemical substance and is used as an insecticide across the globe. It also finds place in the Schedule of the Insecticides Act read with Section 3(e) of the aforesaid Act. Reliance has also been placed upon the Rule 10C of the Insecticides Rules, which prohibits sale or storage of insecticides from the same building or place where any articles consumable by human beings are placed.

13. In the present case, Ethephon is not being sold along with fruits and vegetables nor is being stored at the same place along with the fruits, which are kept for ripening. In

fact, it is being kept as per the Guidelines framed by FSSAI in small sachets in powder form. The specifications of packing Ethephon provide that it has to be packed in 40-60 micron cellulose membrane paper and it generates Ethylene gas only. Meaning thereby, Ethephon in small pouches are kept to generate Ethylene gas and there is no conflict of statutory provisions as contained in Insecticides Rules or the Food Safety and Standards Act. Similarly, regulated use of Ethephon only for the purpose of generating Ethylene gas also does not fall under Section 21(2) of the Food Safety and Standards Act, which prohibits the use of any insecticide on any article of food. By no stretch of imagination, it can be presumed that insecticide is being used along with food for consumption or insecticide is being used directly on food article/food article has contained any insecticide. The sachets of Ethephon are kept as per the specifications only for the purpose of generating Ethylene gas and therefore, the question of quashing the Notification issued by the FSSAI does not arise.

14. In this context, it is relevant to extract Section 16(5) of the Food Safety and Standards Act, as under:-

“16. Duties and functions of Food Authority:-

(1) to (4) xxxxx

(5) The Food Authority may, from time to time give such directions, on matters relating to food safety and

standards, to the Commissioner of Food Safety, who shall be bound by such directions while exercising his powers under this Act.”

15. The aforesaid provision of law empowers the FSSAI to issue directions keeping in view the aim and object of the Food Safety and Standards Act, 2006 and in the present case, directions have rightly been issued and there is no conflict at all, as argued, with the statutory provisions as contained under the Insecticides Act.

16. This Court, in the light of the aforesaid, does not find any reason to interfere with the Order dated 18.08.2018 issued by the FSSAI nor with the Guideline Note No.04 of 2018 and therefore, the Public Interest Litigation deserves to be dismissed.

**W.P.No.3272 of 2021:**

17. The writ petition has been filed for quashment of the Order dated 23.11.2019 issued by the Government of Telangana. In the aforesaid order, the Government of Telangana has directed the Department of Marketing to encourage the use of ‘En-ripe’ which is again other source of Ethylene. The relevant paragraphs of the Order read as under:-

“In Telangana, 80 % of the fruit area is occupied by climacteric fruits like mango, banana, and sweet

orange which invariably have to be artificially ripened either at farm or market yard and hence finding a safe and economical method of ripening them is the need of the hour. In this context, a new product 'En-Ripe' has come up in the market using biologically safe materials into which food grade ethylene gas is encapsulated and should be encouraged. En-Ripe is sealed in triple layer pouch and could be used in crates during transportation of fruit, at farm gate and market place. Further, this new product has been certified by the scientific panel of FSSAI as an innovative product using all biologically safe ingredients. IIHR, Bengaluru also tested the En-Ripe climacteric fruits like mango and banana and found to effectively ripen the fruit. As it is imperative to promote alternative to the Calcium carbide and Ethephon, encouraging available new and safe product like En-Ripe is the only alternative for the artificial ripening of the fruits to ensure availability of low cost but safe to health fruits.

Hence, the Department of Marketing is instructed to encourage the use sale sources of Ethylene, such as En-Ripe, in all the market yards by facilitating demos, sensitizing the farmers, traders and distributors to the dangers of using toxic chemicals in fruit ripening and degreening. Marketing Department is also instructed to provide space on rents in all market yards where fruits are traded in Telangana for sale of En-Ripe to the company producing it and/or its bonafide C&F agents to sell En Ripe.

As the ensuing mango season is nearing, the Department of Horti culture is also instructed to undertake campaign to sensitize all the stakeholders at farm gate as well as all market yards in Telangana about the use of safe to health ripening agents such as En-Ripe by holding demos and giving wide

publicity. At the same time, all the fruit ripening agents and methods being used to ripen or degreen fruits after harvesting shall be surveyed and tested from time to time by Telangana Food Standards and Safety Authority to verify that they are free of any form of acetylene, carbide or any unsafe use of other dangerous chemicals. The Telangana Food Standards and Safety Authority is also requested to test samples of fruits with traders and from time to time, at random, so as to protect the health of consumers and also study various methods of ripening in the larger interest of consumers.”

18. The aforesaid Order of the Government of Telangana does not reflect that ‘En-Ripe’ only has been permitted to use as a source of Ethylene and it only provides that Horticulture Department should sensitize all the stakeholders to use ‘En-Ripe’ as an alternative source of Ethylene gas and therefore, as it has not been mandatory to use only the ‘En-Ripe’ which is again a compound like Ethepon which generates Ethylene gas, the question of interference with the Executive Instructions issued by the Government of Telangana does not arise. The Government, certainly after conduct of research, took a decision to sensitize farmers to use ‘En-Ripe’, which is now again an alternative source of Ethylene and it is nobody’s case that ‘En-Ripe’ only is being permitted to be sold or to be used in the State of Telangana. It does not restrict the petitioner to sell Ethepon and as Ethepon is already in use, ‘En-Ripe’ can also be used and the question of interference of this Court does not arise.

**W.P.No.3719 of 2021:**

19. This writ petition also has been filed for quashment of the Order dated 23.11.2019 issued by the Government of Telangana.

20. The issue involved in this writ petition and the writ petition No.3272 of 2021 is identical, this writ petition also deserves to be dismissed along with the writ petition No.3272 of 2021.

21. Resultantly, the WP (PIL) No.176 of 2020 and W.P.Nos.3272 and 3719 of 2021 are dismissed. There shall be no order as to costs.

Miscellaneous applications, if any pending, shall stand closed.

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**SATISH CHANDRA SHARMA, CJ**

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**ABHINAND KUMAR SHAVILI, J**

19.01.2022  
Pln