



# **IMPORTANCE OF REGULATIONS FOR THE QUALITY AND SAFETY OF RICE BRAN OIL**

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## Tort of Negligence -1932

- *Donoghue v Stevenson* - 1923
- A fight of brave lady for 9 yrs against present system to evolve new regulations
- **Mother of all Control Orders & Consumer Protection Law**



Snail in Ginger Beer

# WHY TO CONSUME OILS

## Functional Properties

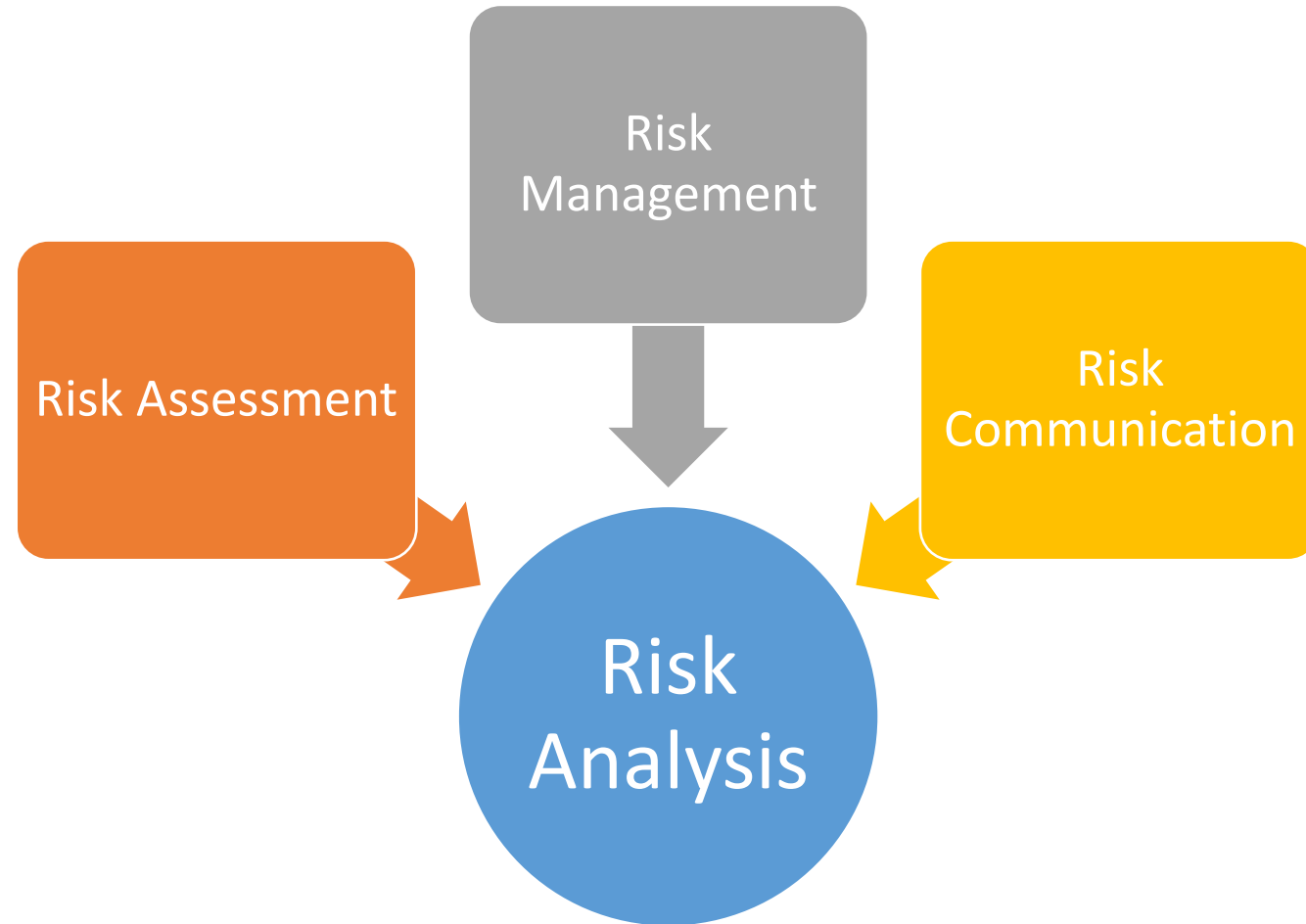
- Enhances palatability and satiety of food
- Acts as a cooking medium
- Assists in determining the Consistency, Flavour, Texture and Mouthfeel.

## Physiological Properties

- Micronutrient concentrated source of energy
- Source of Essential Fatty Acids
- Carrier for Vitamins A, D, E and K
- Supports in functioning of nerve cells and brain cells

# Food Safety is Shared Responsibility (From Farm to Fork)

To mitigate the Food Safety Hazard and associated risk



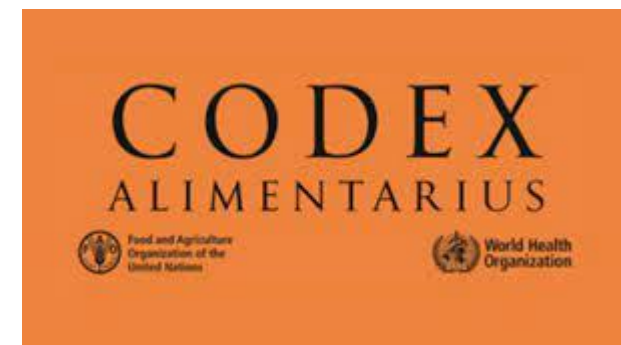
Farmers and growers; manufacturers and processors; food handlers and consumers are responsible for food safety.

# KEY REGULATORY FRAMEWORK:FSSAI



## KEY FRAMEWORK @ CODEX ALIMENTARIUS

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- ❑ Globally, **Codex Committee on Fats & Oils (CCFO)** formulates, worldwide standards for Fats and oils with an objective of protecting human health and ensuring fair trade practices.
- ❑ **Codex Standard (CXS 210-1999): Standard for named vegetable oils'** stipulates standards via providing description, essential composition & quality factors, food additives, covering food labelling, food contaminants etc.
- ❑ In addition to this, there are standards for edible fats and oils which are not covered by individual standards, 'code of practice for the Storage and Transport of Edible Fats and Oils' in Bulk etc. '
- ❑ General standards of Food additives', 'General Standard for Contaminants and Toxins in Food and Feed' helps in laying out the values for additives, contaminants etc. Industry need to be in sync with regulatory requirements.
- ❑ '**Code of Practice (CXC 79-2019): Reduction of 3-Monochloropropane-1,2- Diol Esters (3-MCPDEs) and Glycidyl Esters (GEs) in Refined Oils and Food Products Made With Refined Oils'** intends to provide national and local authorities, producers, manufacturers, and other relevant bodies with guidance to prevent and reduce formation of these contaminants.

# FSSAI (Food Product & Additive) regulation

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❖ Currently there are 32 FSSAI standards under regulation 2.2.1-Oils.

❖ FSS Regulation 2.2.1 (23) specifies Rice Bran Oil standard.

Description:

Rice bran oil means the oil obtained from the layer around the endosperm of rice obtained from paddy of *Oryza Sativa* Linn. Fam Gramineae which is removed during the process of rice milling and is generally known as rice bran.

Refined Rice Bran Oil shall be obtained from solvent extracted oil, neutralised with alkali, bleached with bleaching earth or activated carbon or both and deodorised with steam. Alternatively deacidification' bleaching and deodorisation may be done by physical means.

The oil shall be clear and free from rancidity, adulterants, sediments, suspended and other foreign matters, separated water and added colouring and flavouring substances. The clarity of the oil shall be judged by the absence of turbidity after keeping the filtered sample at 35°C for 24 hrs. Rice Bran Oil shall be sold for human consumption only after refining.

## KEY PARAMETERS OF RICE BRAN OIL:

Moisture and Volatile Matter	Not more than 0.1 percent by weight
Refractive Index at 40°C Butyro-refractometer reading at 40°C	1.4600 - 1.4700 51.0 - 66.4
Saponification value	180 - 195
Iodine value (Wij's method)	90 - 105
Acid value	Not more than 0.5
Unsaponifiable matter, percent by weight (a) for chemically refined (b) for physically refined	Not more than 3.5 percent Not more than 4.5 percent
Oryzanol Content	Not less than 1.0 percent
Flash Point (Pensky Marten Closed method)	Not less than 250°C

- However, it may contain food additives permitted in these Regulations and Appendices.
- Further, if the oil is obtained by the method of solvent extraction and the oil imported into India whether obtained by solvent extraction or otherwise, it shall be supplied for human consumption only after refining and shall conform to the standards laid down under regulation 2.2.1 (16).
- The oil so refined shall not contain hexane more than 5.00 ppm



## FSS REGULATION 2.2.9: SOLVENT EXTRACTED CRUDE VEGETABLE OIL: RICE BRAN OIL

2.2.9 Solvent Extracted Crude Vegetable Oils (not for direct human consumption). - (1) Solvent extracted crude vegetable oils mean vegetable oils extracted using food grade hexane from sources mentioned in standards of respective edible oils under sub-regulation 2.2.1.

(2) The oil shall be clear, free from rancidity, adulterants, sediment, suspended and other foreign matter, separated water and added colouring and flavouring substances and shall also be free from Argemone oil. (3) These oils as such are not for direct human consumption and shall be refined before human consumption, which shall conform to the standards specified for refined vegetable oils laid down under clause 16 of regulation 2.2.1.

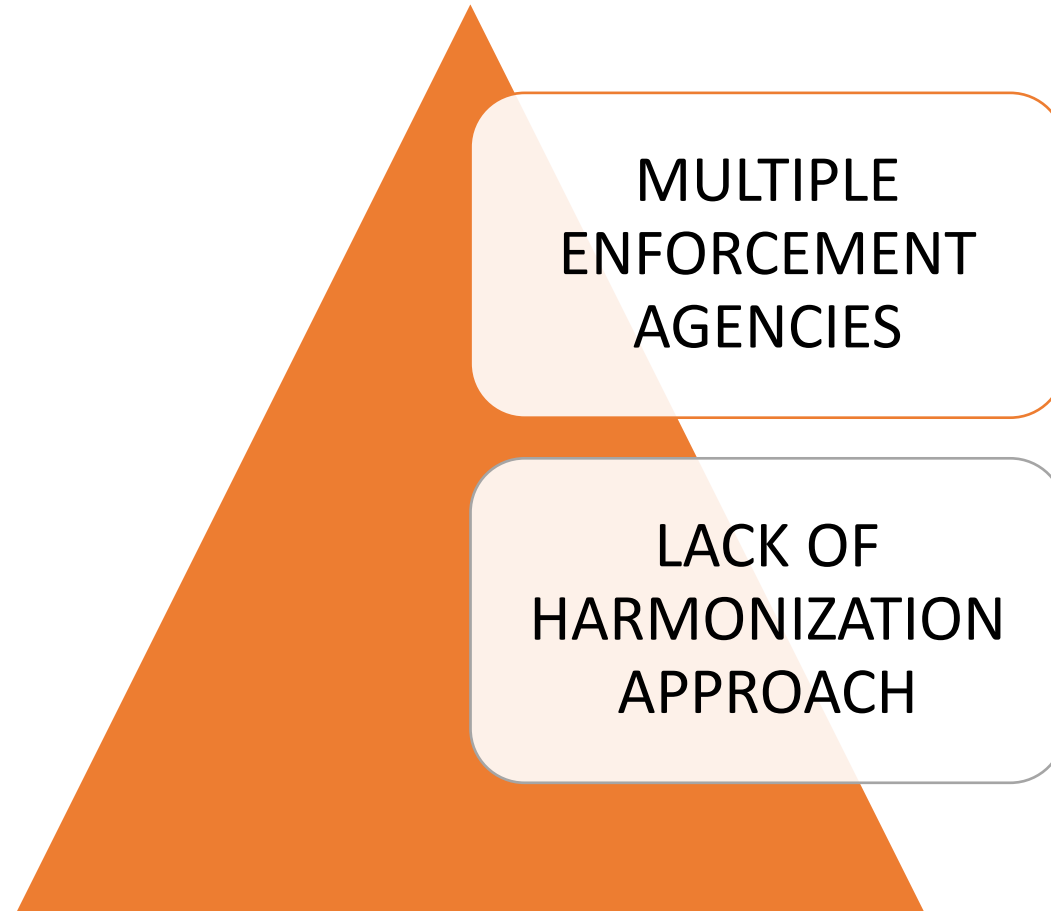
Solvent Extracted Crude Oil	Moisture and insoluble impurities (% by mass Max)	Refractive index at 40°C	Saponification Value	Iodine Value (Wij's)	Acid Value Max.	Unsaponifiable matter (% by mass Max.)	Flash point Pensky Martens (closed cup method) °CMin
Rice Bran Oil	1.0	1.4600 - 1.4700	180-195	90-105	40.0	6.0	100

# FSS (Advertising & Claims) Regulations 2018

- This regulation stipulates, Schedule-I: Nutrient Content Claim; Schedule-II, II-A: List of claims for Edible vegetable oils, Schedule-III: Disease risk reduction claim
  - SCHEDULE – IIA provides List of Claims for Edible Vegetable Oils
- The claim statements provided below may be used on labels or advertisements, as the case may be:
- The terms used in this Schedule such as Rich, Contains shall be in accordance with conditions specified in Schedules-I :
- Provided that Food Business Operators may choose to use same or similar terms in the claim statements as provided in this Schedule while ensuring no change in the intent and meaning of the claim.

SNO.	Edible Vegetable oil	Claims
12	Rice Bran Oil	(i) Contains MUFA and Omega-6 Poly Unsaturated Fatty Acid (Omega-6 PUFA) that helps lowering of cholesterol ; (ii) Contains Oryzanol, Tocopherols and Tocotrienols which are natural antioxidants ; (iii) Oryzanol has antioxidant property and reduces high blood cholesterol.

# CHALLENGES FACED HAMPERING EASE OF DOING BUSINESS



# Continued...

As a good regulatory practice, there is always need for open, transparent approach.

Multiple regulatory authorities often lead to confusion and delay in execution of the compliance and lead to unnecessary burden on FBOs.

Eg: Issue w.r. Acid value harmonization for Multi Sourced edible oil (MSEO) parameter with FSSAI and AGMARK



# **OTHER FSSAI REGULATIONS PERTAINING TO EDIBLE OIL SECTOR**

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# FSS (Fortification of Foods) Regulations 2018

- Schedule-I: Standards for fortification of Foods

## 2. Fortified Oil

**2. Fortified Oil:** Vegetable Oil, when fortified, shall be fortified with the following micronutrients, at the level given in the table below:

Sl. No.	Nutrient	Level of nutrient	Source of nutrient
1.	Vitamin A	6 µg RE - 9.9 µg RE per gm of oil	Retinyl acetate or Retinyl palmitate
2.	Vitamin D	0.11 µg– 0.16 µg per gm of oil.	*Cholecalciferol or *Ergocalciferol (*Only from Plant Source)

Note: Vitamin A (retinol): 1 IU= 0.3 µg RE (Retinol Equivalent); Vitamin D (Cholecalciferol or Ergocalciferol): 1 IU= 0.025 µg

## FSSAI Fortified Logo

Every package of fortified food shall carry the words “fortified with ..... (name of the fortificant)” and the logo



# FSS (Food Products & Additive) Regulations

## 2.2.1 (24): Multi Source Edible Oil:

- ❖ Blended Edible Vegetable Oil renamed to Multi Source Edible Oil
- ❖ Blend/admixture of two edible oils is allowed: Minimum 20% Individual Oil Content
- ❖ Chia oil and/or Flaxseed/Linseed Oil allowed as third oil with limit of max 5%.
- ❖ Saturated Fatty Acid content: Not more than 33%
- ❖ Mandatory AGMARK certification
- ❖ Mustard oil is prohibited from blending from 8<sup>th</sup> June 2021.

# LABELLING PROVISIONS AS PER L&D REGULATION

## 2.1 Labelling of edible oils and fats

- Specific name of edible oil
- Every Package shall declare:
  - content of saturated fat and trans fat may be declared on the label as “not more than”.
  - quantity of monounsaturated fatty, polyunsaturated fatty acid, omega-3 fatty acid and omega-6 fatty acid content on the label.
- Every container of refined vegetable oil shall write: Refined ( Name of Oil)Oil
- The package, label or the advertisement of edible refined vegetable oils and fats shall not use any exaggerated expressions like “Super-Refined”, “Extra-Refined”, “Micro-Refined”, “Double refined,”, Ultra-Refined”.
- Allergen declaration is not required in case of oils derived from these ingredients.”

<sup>1</sup>[4] Every package containing an admixture of edible oils shall carry the following label declaration in bold capital letter immediately below its brand name or trade name on the front of pack, namely: -

**"MULTI-SOURCE EDIBLE OIL"**

(Name and nature\* of edible oil) .....per cent. by weight  
(Name and nature\* of edible oil) .....per cent. by weight

(\*i.e. in raw or refined form)

For pack size less than one litre, the font size of the label declaration “MULTI-SOURCE EDIBLE OIL”, shall not be less than 3 mm with the length of declaration statement as 35 mm minimum and for label declaration “Name and Nature of edible oil.....per cent. by weight”, font size shall not be less than 2 mm.

For pack size one litre to below 5 litre, the font size of the label declaration “MULTI-SOURCE EDIBLE OIL” shall not be less than 4 mm with the length of declaration statement as 45 mm minimum and for label declaration “Name and Nature of edible oil.....per cent. by weight” font size shall not be less than 2.5 mm.

For pack size five litre and above, the font size of the label declaration “MULTI-SOURCE EDIBLE OIL” shall not be less than 10 mm and for label declaration “Name and Nature of edible oil.....per cent. by weight” font size shall not be less than 3 mm.

There shall also be the following declaration in bold capital letters along with the name of product on front of pack,-

**NOT TO BE SOLD LOOSE.”**

FBOs to comply with provisions by 1<sup>st</sup> July 2022





# FSS (VEGAN FOODS) REGULATION 2022

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## ❑ Definition of Vegan

“Vegan food” means the food or food ingredient, including additives, flavourings, enzymes and carriers, or processing aids that are not products of animal origin and in which, at no stage of production and processing, ingredients, including additives, flavourings, enzymes and carriers, or processing aids that are of animal origin has been used.

## ❑ *General Requirements*

- The food products to be called vegan, shall not have involved animal testing for any purpose including safety evaluation, unless provided by any Regulatory Authority.
- Food Business Operator shall ensure that all stages of production, processing and distribution shall be designed to take the appropriate precautions in conformity with the Good Manufacturing Practices in such a way to avoid the unintended presence of non-vegan substances
- There shall be traceability established up to the manufacturer level and the Food Business Operator shall comply with any other requirements specified by the Food Authority

## ❑ *Labelling requirements and compliance*

- ❑ *Guidelines and FAQs are also released by FSSAI for ease of understanding for FBOs.*

# NEW WORK PROPOSALS

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Crude oil specifications in line with SEA order 1967

It is also working for framing the standards such as Sal olein, Sal Stearin, Mango Kernel Olein, Mango Kernel stearin, Mango Kernel Olein, Shea Olein, Shea stearin etc.

# FSSAI Draft Genetically Modified Foods Regulation

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## ❑ Definition:

- Genetically Modified or Engineered Food means food and food ingredients composed of or containing genetically modified or engineered organisms obtained through modern biotechnology, or food and food ingredients produced from but not containing genetically modified or engineered organisms obtained through modern biotechnology.

## ❑ Application:(2) They shall apply to-

- (a) Genetically Modified Organisms (GMOs) intended for food use
- (b) Food ingredients produced from GMOs that contain modified DNA
- (c) Food ingredients produced from GMOs that do not contain modified DNA. It includes ingredients/additives/processing aids derived from GMO.

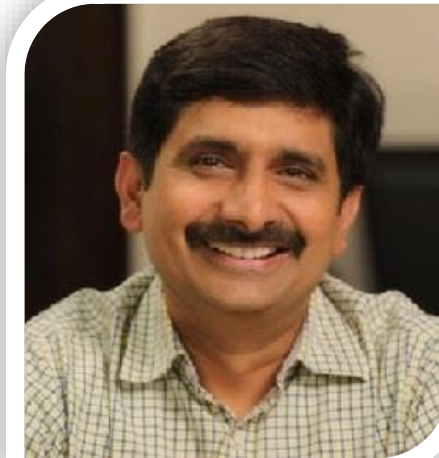
## ❑ Approval: FBO of a GM-food shall submit an application as per the format prescribed by the Food Authority along with necessary documents and fee to the Food Authority.

## ❑ GM Food Labelling-

- a) All food products referred in 1(2)a, b: Contains genetically modified organisms. If product contains 1% or more of GM ingredient considered individually.
- b) Must appear on front of pack
- c) Labelling requirement applies to adventitious or technically unavoidable presence of GM Ingredients.
- d) This labelling requirement is not applicable to GM-food products in which the modified DNA is not detectable as referred to in clause (c) of sub-regulation (2) of regulation 1.
- e) In addition, all GM-foods shall comply with the packaging and labelling requirements specified under the Food Safety and Standards (Packaging) Regulations, 2018 and Food Safety and Standards (Labelling and Display) Regulations, 2020.

# FSSAI LEGISLATIVE UPDATES: ORDER/NOTIFICATIONS

S.NO.	Notification/Order	Details
1	Manufacturers [including Repacker and Relabellers] to upload or link mandatory Lab Testing Report [Six-monthly] on FoSCos	Manufacturers either need to upload test report or link mandatory lab testing report on INFOLNET. 31 <sup>st</sup> March 2023 is deadline for uploading report of session April-Sept 2022.
2	Gazette Notification of Food Safety and Standards (Advertising & Claims) Amendment Regulations, 2022	<ol style="list-style-type: none"><li>1. Brand name provision: This is only a brand name or trademark, or fancy name and does not represent its true nature; (relevant one may be chosen as applicable).-Extension for 6 months has been provided.</li><li>2. Under Nutrition Claim: Nutrient comparative Claim: “(a) at least thirty per cent. in the energy value or macronutrients content; (b) 3. <b>Trans Fat Free claim: 1% in edible oils</b></li></ol>
3	Draft Notification of FSS (Labelling & Display) Amendment Regulations, 2022 related to labelling requirements of Non-retail container, tolerance limit etc.	<ol style="list-style-type: none"><li>1. Per serve percentage (%) contribution to RDA and number of servings per pack may not be given for Infant Nutrition products as defined under FSS(Foods for Infant Nutrition) Regulations, 2020.</li><li>2. “(d) The compliance to quantity of declared nutrients on the label shall have the tolerance of <math>\pm</math> 20 percent of the value for that nutrient declared on the label at any point in time within declared shelf life of the product.”</li><li>3. Labelling Requirements of non-retail container</li></ol>



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