FSSAI Regulation of Trans Fats

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Industrially produced trans fatty acid is a toxic chemical that clogs our arteries and is a risk factor for heart attack and other diseases. Eliminating this harmful chemical from our food system can save many lives. Health being an important focus of UPSC, a thorough understanding of trans fats is essential.

In news: FSSAI extends deadline for trans fat reduction in edible oils
Placing it in syllabus: Science & Technology
Dimensions:

- What is FSSAI?
- What are trans fats?
- Health Risks Associated With Trans Fat
- About LDL and HDL
- Regulations by FSSAI and timelines

Content

What is FSSAI?

- **Food Safety and Standards Authority of India (FSSAI)** is an **autonomous body** established **under** the **Ministry of Health & Family Welfare**, Government of India.
- The FSSAI has been established under the **Food Safety and Standards (FSS) Act, 2006**. This Act is a **consolidating statute related to food safety** and regulation in India.
- FSSAI is **responsible for protecting and promoting public health** through the regulation and supervision of food safety in India.
- The FSSAI has its **headquarters at New Delhi**.
- The authority also has **6 regional offices** located in

Delhi, Guwahati, Mumbai, Kolkata, Cochin, and Chennai.

- The FSSAI consists of a chairperson & 22 members.
- The non-executive Chairperson appointed by the Central Government who is either holding or has held the position of not below the rank of Secretary to the Government of India.

The FSS Act, 2006 empowers the Food Safety and Standards Authority of India (FSSAI) with respect to:

- Framing of regulations to lay down food safety standards
- Laying down guidelines for accreditation of laboratories for food testing
- Providing scientific advice and technical support to the Central Government
- Contributing to the development of international technical standards in food
- Collecting and collating data regarding food consumption, contamination, emerging risks etc.
- Disseminating information and promoting awareness about food safety and nutrition in India

What are Trans Fats?

- Trans Fats or Trans Fatty Acids (TFAs) are a **form of unsaturated fat.** They come in both natural and artificial form.
- Industrially produced trans fats are created artificially during the hydrogenation processes of vegetable oils, and resulting in **partially hydrogenated vegetable oils (PHVOs**).
- **PHVOs are the major source of trans fats in India** and are found in vanaspati, margarines, and shortenings.
- Vanaspati is used in preparation of Indian traditional sweets (mithais) such as ladoo, imarti, jalebi, and deep-fried foods such as aloo tikki and bhatura.
- Margarine and bakery shortenings are the most common fats used in baked goods such as cakes, pastries, and

puffs.
- Some trans fats are also formed during the manufacturing process when a high temperature refinement process is used to create vegetable oils.

Types of Trans Fats:

Naturally-occurring trans fats

- These are **produced in the gut of some animals** and foods made from these animals.
- Some **microorganisms occurring in the guts of ruminants** can synthesize trans fats through the process of **biohydrogenation**.
- These microorganism-produced trans fats are found in **dairy products**, such as cheese and butterfat, and in **certain types of meat**, including lamb and beef.

Artificial trans fats

- These are generated from the industrial process of hydrogenation.
- The process of hydrogenation **adds hydrogen to liquid vegetable oils** thereby converting liquid fat to semi-solid fat that resembles pure ghee or butter.
- **Artificial trans fats are also known as "Partially hydrogenated oils".**

Trans fats are used in in a number of manufactured foods because of the following reasons:

- Trans fats are **easy to use, inexpensive to generate.**
- They **increase the shelf life of oils.** PHVOs can be stored for a longer time than vegetable oils.
- They are an **easy and cost effective substitute for 'Pure Ghee'.**
- They **provide** a **desirable texture and taste to food.**
- Several restaurants and fast-food outlets use trans fats to deep-fry foods because oils with **trans fats can be used multiple times in commercial fryers.**

Various countries including Denmark, Switzerland, Canada, etc., and US jurisdictions including California, New York City, Baltimore, etc. have reduced or restricted the utilization of trans fats in foodservice establishments.

Health Risks Associated With Trans Fat

- Trans Fats are found to be the **cause of several non-communicable diseases**
- Scientific evidence concludes that trans fats carry a **higher risk for heart disease** than saturated fats.
- The consumption of trans fats causes an **increase in levels of low-density lipoprotein (LDL) cholesterol.** Increased LDL levels result in the accumulation of fat in blood vessels, which can lead to atherosclerosis, heart disease, and stroke.
- Trans fats also **lower levels of high-density lipoprotein (HDL) cholesterol**, which plays an important role in transporting cholesterol from cells and blood vessels to the liver, where cholesterol is metabolized for excretion.
- According to WHO, 11 out of 15 coronary heart disease deaths are caused due to Trans fats and it is necessary to take actions to eliminate the substances.
- It also increases the risk of developing **obesity**, **metabolic syndrome**, **insulin resistance and type 2 diabetes**, **infertility**, **certain types of cancers** and can also lead to **compromised fetal development** that can cause harm to the yet to be born baby.
- Recently, the World Health Organisation (WHO) had warned India, Pakistan, Bangladesh, Nepal and Bhutan were among countries that need to act urgently against trans-fat.
- Cardiovascular diseases along with diabetes are proving fatal for COVID-19 patients also.
- According to 2017 estimates, India has one of the highest burden of heart disease deaths due to high trans-fat intake out of all countries in the world.

- More than 1.5 million deaths take place each year due to coronary heart disease, and nearly 5 percent of these deaths each year (71,000) can be attributed to trans fats intake.

About LDL and HDL

- There are two main types of cholesterol: **high-density lipoprotein (HDL)** and **low-density lipoprotein (LDL)**. Lipoproteins are made of fat and protein.
- **LDL cholesterol** is often called **bad cholesterol.** If there is too much LDL cholesterol in the blood, **it builds up in the walls of the blood vessels**, causing them to narrow and stiffen.
- A **buildup of LDL cholesterol reduces blood flow** and can increase the **risk of heart attack or stroke**.
- **HDL** or **good cholesterol** can **move LDL cholesterol from the blood to the liver**, which breaks it down for disposal as waste.
- HDL therefore **prevents the buildup of plaque**, **protects our arteries, and protects us from atherosclerotic cardiovascular disease**.
- HDL cholesterol is referred to as good cholesterol because **it reduces the level of cholesterol in the blood**.
- Higher HDL levels are linked to a reduced risk of heart attack and heart disease.

Regulations by FSSAI and timelines:

- The **World Health Organisation (WHO) had called for global elimination of trans fat by 2023.** According to WHO's **REPLACE second annual report** released in September 2020, around 40 countries have already enacted the best practice policies to eliminate trans fats.
- India first passed a regulation in 2013 that set a Trans Fatty Acid (TFA) limit of 10% in oils and fats which was **further reduced to 5% in 2017**.

- In 2018, a **REPLACE campaign** was launched by WHO for global-level elimination of trans-fats in industrially produced edible oils. India and FSSAI have made commitments to this campaign.
- A new **mass media campaign** is also launched by FSSAI named "**Heart Attack Rewind**" to eliminate industrially-produced trans fat in the food supply by the year 2022. It is a **followup to an earlier campaign called "Eat Right"**, which was launched in July 2018.
- A **"Trans Fat Free" logo** has been launched by the FSSAI for **voluntary labeling** to develop TFA-free products. The label is often used by bakeries, local food outlets, and shops for preparations containing TFA not exceeding 0.2 per 100 g.
- In September 2020, FSSAI announced that all edible refined oils, vanaspati, bakery shortening, margarines, vegetable fat spreads and mixed fat spreads may only contain up to **3 percent trans fats by January 2021** and **2 per cent or less trans fats by January 2022**.
- The edible oil industry has cited the outbreak of the Coronavirus and the subsequent lockdowns as a reason for it it's inability to prepare for the reduction of trans fat to 3% by January 2021.
- In view of representations received from the industry and to facilitate smooth transition from the industry to the new norms for the trans fatty acids (TFAs), **FSSAI modified the date for enforcement for the limit of 3% by weight to 1st April, 2021**
- The deadline to reduce trans fatty acid to 2%, however, remains the same – January 1, 2022.
- **Eliminating industrially produced trans-fatty acids can save 17 million lives over the next 25 years**.
- **WHO has recommended** that trans-fat intake as a % of energy **should not exceed 1%**.

Mould your thought: Why are trans fats considered harmful? What steps has FSSAI taken to regulate the use of trans fats

in food?

Approach to the answer:

- Define trans fats and their use in brief
- Write about the health risks of trans fats
- Give an account of FSSAI initiatives
- Conclusion