DYE ANOTHER DAY

Are you dining on synthetic shades? Karnataka's bold move against toxic artificial food dyes such as Rhodamine B, sparks a revolution in culinary safety

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Ever been captivated by the vibrant hues of Gobi Manchurian, only to find your homemade version lacking the same allure? You're not alone. But did you know that the secret lies in a synthetic fluorescent dye called Rhodamine-B, or RhB? This chemical compound, primarily employed as a colorant in textiles, cosmetics, and plastics, might surprise you with its presence in your favourite dish. Hence, the Karnataka Government's decision to ban its use comes as a necessary step.

What is Rhodamine - B?

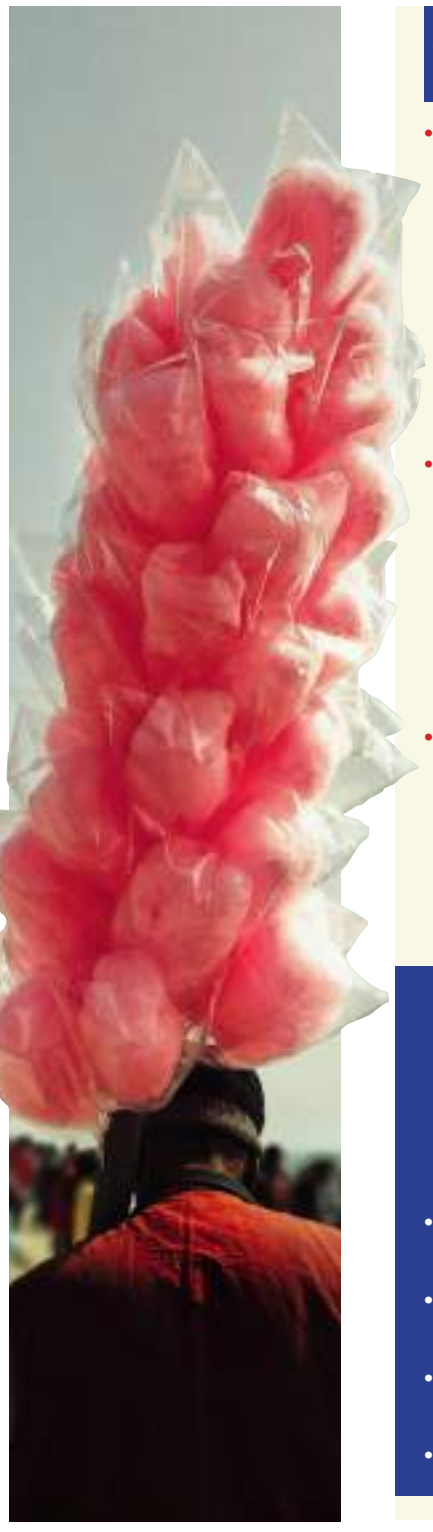
Rhodamine B (RhB), a vibrant pink synthetic fluorescent dye belonging to the xanthene class and has been extensively utilised to enhance the visual appeal of foods. Its high-water solubility makes it particularly suitable for use as a food colourant. In food, Rhodamine B can also be used to accentuate the vibrancy of tomato, red chili powder, sweets, and sauces. Dr Soumita Biswas, Chief Nutritionist, Aster RV Hospital, JP Nagar, says, "When it enters the body through the food, Rhodamine B is a component of xenobiotic substance metabolised by cytochrome P450 in the body to produce free radicals which affects the activity of Superoxide Dismutase (SOD), leading to oxidative stress on cells and tissues. Long-term uses of Rhodamine B in food can lead to liver dysfunction or cancer."

Prolonged exposure to this compound has been linked to adverse effects such as liver dysfunction and an increased risk of cancer. Moreover, acute poisoning can occur when individuals are exposed to large quantities of Rhodamine B over a short period.

Dr Sripriya Mahesh, Nutritionist and Eating Plan Consultant, says, "The neurotoxic, carcinogenic, and mutagenic effects of this colour, even when consumed in small amounts, have triggered this ban. Rhodamine B can accumulate in the human digestive system through diet and can cause various digestive diseases such as stomach polyps and intestinal tumours and liver dysfunction. It can irritate the eye, respiratory system, and skin."

Food safety

Food colour additives are generally subject to rigorous testing to ensure they pose no harm when consumed within permissible limits. The Food Safety and Standards Authority of India (FSSAI) mandates that no colouring agent should be incorporated into food unless explicitly permitted under the Food Safety and Standards (Food Products Standards and Food Additives) Regulation of 2011. Rhodamine B (RhB), however, is not one of them.



Shashi Kumar, co-founder and CEO, Akshayakalpa Organic, says, "The prevalent use of Rhodamine B in food underscores a systemic issue within our food industry. Beyond just the presence of harmful chemicals, it reflects a broader problem in our food ecosystem. Whether it is fresh produce, meals served by eateries and street vendors, or packaged goods from grocery stores, they often appear more visually appealing than they naturally should. Unfortunately, consumers are often lured by this aesthetic without recognizing their artificial nature."

Be Alert

According to FSSAI, approved manufacturers need to declare on a label what food colouring is used in their products and provide lab certificates for their products to get FSSAI licence. "Street vendors or unpackaged food do not have such information and there is no way to test outside laboratory what ingredients, food colours or flavouring are used," says Ewa Johar, co-founder, product development, Oxbow Brands.

Some industry professionals say that consumers can easily check for the presence of artificial colours by observing their fingers after washing hands. "Residue from colour additives typically persists, serving as a telltale sign. Additionally, we advise consumers to exercise caution when consuming brightly coloured foods, as they often contain added artificial colours," says Chethan L, Managing Director, White Lake Resort, Mysore (A unit of Katnal Hospitality Private Limited).

Regarding acceptable usage levels, regulations regarding food colorants vary depending on the jurisdiction and the specific food item. "Generally, food regulatory bodies impose stringent limits on the quantity of food colorants permitted in products to safeguard public health. These limits are established through comprehensive testing to ascertain consumption levels that minimize potential health hazards," says Sheela Joseph, consultant nutritionist, SPARSH Hospital, Bangalore.

Rhodamine is not a permitted food colour but as per FSSAI regulations, other synthetic food colourants should not surpass a final concentration of 100 parts per million (ppm) in most foods and beverages. "However, in certain food and beverage items, this limit may extend to 200 ppm. Fresh food items are permitted to have a maximum level of 100 ppm, while canned foods can have up to 200 ppm," says Edwina Raj, Head of Services - Clinical Nutrition & Dietetics, Aster CMI Hospital.

Read the labels

Food regulatory bodies in India require that food products made with artificial colours must mention them on the ingredients list. Experts suggest one must look for terms such as "food colour" or specific names such as "Tartrazine" or "Carmine" nefoe buying canned or packaged food items.

Sometimes, the appearance of the food may be indicative of the presence of artificial colour. "This may include colour specks or uneven colouring in the food. While the chemical is not permitted to be used in foods, it can still be found in processed foods such as candies and sweets, chilli powder, chilli oil, curry powder, sauces, and more. It is advised to be mindful and check the ingredients list thoroughly before purchasing these products," cautions Dr. Deepti Lokeshappa, senior consultant, nutritionist, and dietitian, Motherhood Hospital, Indiranagar.

Teja Chekuri, Managing Director, Ironhill India, adds, "Consumers must advocate for transparent labelling practices and stringent regulatory oversight of food additives. While colour additives serve aesthetic purposes, they should never compromise consumer safety. The ban on Rhodamine—B in Karnataka underscores the importance of continuous monitoring and regulation of food additives to safeguard public health."

Be cautious when consuming brightly coloured foods, especially those with no natural explanation for their colouration.

GOVERNMENT'S DIRECTIVE

- **Karnataka's health minister,** Dinesh Gundu Rao, recently unveiled stringent measures against harmful colorants in popular snacks. Perpetrators face up to 7 years' imprisonment and a hefty fine of ₹10 lakhs.
- **Rao highlighted** the potential health hazards associated with consuming snacks laced with artificial colours, highlighting concerns about long-term risks, including cancer.
- **Consequently, the** health department swiftly issued a directive prohibiting the use of banned artificial colours, such as Rhodamine B, in these popular snacks.

FSSAI PERMITTED ARTIFICIAL COLOURING AGENTS

- **Red -** Ponceau 4R, Carmoisine, Erythrosine
- **Yellow -** Tartrazine, Sunset Yellow FCF
- **Blue -** Indigo Carmine, Brilliant Blue FCF
- **Green -** Fast Green FCF