

## IS MUSTARD OIL GOOD FOR CARDIAC HEALTH?

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Edible oils play a significant role in supporting heart health, as certain types of fats are essential for maintaining cardiovascular function. Healthy oils, such as those rich in unsaturated fats, omega-3 fatty acids, and antioxidants, can help reduce inflammation, lower harmful cholesterol levels, and improve overall heart function. Both saturated and unsaturated fats are essential components of our daily diet. In either form, consuming too much of it can be fatal to our health. For instance, high levels of saturated fat, cholesterol, and trans-fats can cause chronic illnesses like hypertension, cancer & cardiovascular diseases etc. Cardio-protective dietary patterns need the substitution of healthy oils, such as canola, corn, olive, soybean, safflower, and sunflower oil, for dietary saturated fats.<sup>1,2</sup>

A popular liquid mustard oil is an oil that is primarily used in sub-continent region. It smells strong and tastes nutty. It has a low saturated fat content but it has a significant amount of erucic acid. Examining the chemical makeup of mustard oil approximately 70% of mustard oil's MUFA composition is made up of 42% erucic acid and 12% oleic acid. Its 22% PUFA and 8% SFAs. In addition to having a high (10%) omega-3 content, mustard oil is a popular, affordable, mass-produced vegetarian source of omega-3 fatty acids. Its high erucic acid level is classified as a natural toxins due to detrimental effects on heart muscle functions made it unfit for human ingestion at one point. Erucic acid is a typical constituent of mustard or rapeseed. Foodstuff with a high content of erucic acid is considered undesirable for human consumption because it has been linked to myocardial lipidosis and heart lesions in laboratory animal models but lack of evidence of human trails. The triacylglycerol buildup in the heart as a result of inadequate oxidation is one of its most severe negative health effects. The heart muscle may become less contractile as a result of such myocardial lipidosis. Avoiding erucic acid consumption appears to completely reverse the consequences of the detected cardiac lesions, which are most likely the result of inadequate metabolic breakdown<sup>2</sup>.

In 2016, FDA in the United States banned the use of mustard oil for cooking because of its higher erucic acid content<sup>3</sup>. However, there are upper limitations for acceptable mustard oil intake set by the European Union 27 countries. EU introduced a maximum level of 5% erucic acid contribution to the total fatty acids in edible oil and added fat in 1976. However, in 2016, the European Food Safety Authority (EFSA) proposed a lower maximum content of erucic acid in edible oils of 2% instead of 5% and Australia and New Zealand in form of maximum levels of 2% erucic acid in oils along with a tolerable daily intake (TDI) of 7.5 mg/kg body weight erucic acid<sup>4,5</sup>.

For optimal heart health, the FDA and heart health experts recommend focusing on oils rich in monounsaturated fats (such as olive oil, canola, corn, soybean and avocado oil) and omega-3 fatty acids (such as flaxseed and walnut oils)<sup>5,6</sup>. These oils support heart function by improving cholesterol profiles, reducing inflammation, and lowering the risk of cardiovascular disease. Mustard oil can be a choice when used occasionally but only in moderation and is particularly beneficial for cooking or topical application. However, it's important to be mindful of its high erucic acid content and to consume it in moderation, especially if you have concerns about heart health. If you're unsure about its suitability for your diet, it's always a good idea to consult with a clinical dietitian.

**References:**

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