# Substance Information Document

# Trans-beta-ionone

## 1. Substance identity

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| Name | Guar Gum |
| Synonyms | Galactasol; Gendriv 162; Goma guar; Guar; Guar Gum Seed Endosperm; Guar flour; Guar gum; Guar gum (Cyamopsis tetragonolobus (L.)); Guar gum (cyamopsis tetragonolobus); Guar gum [NF] |
| IUPAC Name | N/A* |
| CAS | 9000-30-0 |

*Non answered, IUPAC Name was not found

## 2. Toxicological information

Expert groups, including EFSA and JECFA have concluded that Guar gum is not genotoxic. The EFSA expert panel considered guar gum as not carcinogenic based on 2-year studies in mice and rats.

The EFSA expert Panel noted that most of the reported cases of allergic reaction to guar gum were after inhalation in occupational settings. In addition, there was no indication that the guar gum used under these conditions complied with the requirement of the specifications of the food additive. Very few cases were reported after consumption of foods containing guar gum. Thus, guar gum may induce allergic reactions, likely due to the proteins that are present in the gum.

Studies in laboratory animals suggest that guar gum is regarded as not acutely toxic, based on the results of acute oral toxicity studies (LD50 for mouse, rat, rabbit, and hamster 6,000–9,000 mg/kg bw per day)

Short-term and subchronic studies on guar gum have not shown major adverse effects indicating a moderate-low acute oral toxicity and repeated-dose toxicity (NOAEL 18000 in rats 90-day, NOAEL 15000 mg/kg bw/day in mice 90-day). Limited information is available on the acute- and repeated-dose toxicity of guar gum after inhalation or dermal exposure.

Developmental and reproductive toxicity was assessed by the EFSA Panel. They considered maternal toxicity at high dose levels as not relevant for hazard characterization of guar gum. From a dietary combined fertility and developmental 13-weeks toxicity study in rats, the Panel could identify a NOAEL for general toxicity of 2,700 mg/kg bw per day, a NOAEL of 5,200 mg/kg bw per day for fertility effects based on decreased number of corpora lutea and a NOAEL for developmental toxicity of 11,800 mg/kg bw per day the highest dose tested.

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| JECFA | GUAR GUM (JECFA Evaluation) (toxplanet.com)<br>Guar Gum: Toxicological Evaluation of some Food Additives including Anticaking Agents, Antimicrobials, Antioxidants, Emulsifiers and |

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| | Thickening Agents (WHO Food Additives Series 5 - 1974) (toxplanet.com) |
| FEMA | 3. GRAS Substances(2001-3124)_0.pdf (femaflavor.org) |
| EFSA | Re-evaluation of guar gum (E 412) as a food additive - - 2017 - EFSA Journal - Wiley Online Library |
| ECHA – REACH dossier | No registration dossier |
| PUBCHEM | SID 48413832 - PubChem (nih.gov) |
| CIR | Safety Assessment of Galactomannans as Used in Cosmetics (personalcarecouncil.org) |
| OSHA | - |

## 3. Addictiveness and attractiveness

The European Commission's Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), in their review of the addictiveness and attractiveness of tobacco additives, noted that regarding flavors, it is well known that the thermal degradation of sugars and carbohydrates at lower temperatures as in foods contribute to complex aromas. Several flavor compounds were reported due to pyrolysis reactions of guar gum. These flavor compounds singly or in combination with the thousands of other smoke constituents can act synergistically and contribute to the attractiveness of smoking by improving smoke flavor, thereby masking its bitter taste, reducing the harshness of smoking, creating sensory cues, which all could contribute to the optimization of nicotine dosing and enhance abuse potential

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| SCENIHR | Final Opinion on: Additives Used in Tobacco Products (Opinion 1) - Tobacco Additives I (toxplanet.com)<br>Opinion on: Addictiveness and Attractiveness of Tobacco Additives (toxplanet.com) |
| EMA | - |
| PUBMED | - |