

GOVERNMENT OF INDIA
MINISTRY OF RURAL DEVELOPMENT
DEPARTMENT OF RURAL DEVELOPMENT

RAJYA SABHA
STARRED QUESTION NO. 209
TO BE ANSWERED ON 09/08/2024

USE OF PLASTIC WASTE IN CONSTRUCTION OF ROADS UNDER PMGSY

*209 SHRI MUKUL BALKRISHNA WASNIK:

Will the Minister of RURAL DEVELOPMENT be pleased to state:

- (a) whether it is a fact that after making plastic waste into a powdery substance, it is mixed with hot bitumen and used for construction of rural roads under Pradhan Mantri Gramin Sadak Yojna (PMGSY);
- (b) whether any study has been conducted to assess the environmental suitability of adding plastic to the material for road construction;
- (c) if so, the details thereof; and
- (d) if not, the reasons for allowing waste plastic in the construction of roads?

ANSWER
MINISTER OF RURAL DEVELOPMENT
(SHRI SHIVRAJ SINGH CHOUHAN)

(a) to (d): A Statement is laid on the Table of the House.

Statement referred to in reply to Parts (a) to (d) of Rajya Sabha Starred Question No. 209 due for answer on 09.08.2024

(a): In order to promote and adoption of New/ Green Technology in construction of rural roads using New materials/ Waste materials/ Locally available materials under Pradhan Mantri Gram Sadak Yojana (PMGSY), the Ministry has revised existing guidelines and brought "Vision Document on New technology initiatives guidelines-2022". As per these guidelines, States/ UTs have to compulsorily use waste plastic in at least 70% length out of the eligible proposed length involving Hot Mix process in PMGSY roads.

The type of plastics to be used in this process and the required size is regulated as per "Guidelines for the use of waste plastic in hot bituminous mixes (Dry process) in wearing courses" issued by Indian Roads Congress (IRC).

(b) to (d): Based on a study conducted by Indian Institute of Technology, Roorkee, focusing on the toxicity and environmental hazards associated with plastic usage, particularly in asphalt mixes, it has been revealed that there is no significant difference in fume generation between virgin asphalt mixes and those modified with Recycled Waste Plastic (RWP).

The levels of fume generation remained well below the threshold limits established by regulatory bodies such as the National Institute for Occupational Safety and Health (NIOSH) and the Central Pollution Control Board (CPCB), indicating minimal harm to the environment. Furthermore, the study found that microplastic generation from RWP-modified asphalt mixes is negligible to non-existent, as evidenced by Leachate analysis.
