राष्ट्रीय व्यावसायिक स्वास्थ्य संस्थान
NATIONAL INSTITUTE OF OCCUPATIONAL HEALTH
(व्यावसायिक स्वास्थ्य एवं आईपीसीएस सहभागी संस्थान के लिए विश्व स्वास्थ्य संगठन का सहयोगी केन्द्र)
(WHO Collaborative Centre for Occupational Health & IPCS participating Institute)
(भारतीय आयुर्विज्ञान अनुसंधान परिषद) (Indian Council of Medical Research)
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EVALUATION REPORT OF EFFICIENCY OF FUEL STICK (FUEL CONDITIONER)

The Air pollution division of National Institute of Occupational Health, Meghaninagar, Ahmedabad has evaluated the levels of sulphur dioxide and oxides of nitrogen in the exhaust gas emission of LMV car on 30th July 2008.

The vehicle used for the test has been approved for "Pollution Under Control Certificate" Motor Vehicles Department, Government of Gujarat.

Vehicle Reg. No.: GJ14E793

Make: Toyota

Model: Qualis

Mfg. Year: 2001

Fuel: Diesel

PUC C. No.: 0004447

Date of Analysis: 30th July 2008

Manufacturer of Fuel Stick (Fuel Conditioner):

Bio-Marine Solutions (NZ) Ltd., Aukland, New Zealand.

Promoter of this project:

Khushbu Petro-Chem R & D Centre, Ahmedabad

Description of Experiment:

The tests were conducted on 30th July 2008 between 12:00 PM to 6:00 PM (IST) at NIOH, Meghaninagar, Ahmedabad. 50 liters of diesel was put into the diesel tank of the vehicle and the vehicle was first made to run under Ideal Conditions

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for 60 minutes without addition of Fuel Stick (Fuel Conditioner). Then again the vehicle was made to run under ideal condition for 60 minutes after addition of one fuel stick. Air sampling was done to trap sulpur dioxide and oxides of nitrogen in an absorption media as per the CPCB methods which (enclosed). Analysis was done and the concentrations of sulphur dioxide and oxides of nitrogen were given in the following table.

Table.1: Concentration of sulphur dioxide and oxides of nitrogen with/without fuel stick

Sr. No.	Parameters	Units	Test Method	Results		% Reduction
				Diesel (Without addition of Fuel Stick)	Diesel (After Addition of Fuel Stick)	
1.	SO_2	$\mu g/m^3$	West & Gaeke	1329.54	557.40	58.08
2.	NO_x	$\mu g/m^3$	Jacob & Hochhciser	4350.98	3164.92	27.25
3.	Consumption of Diesel	Liter	Volumetric	1.75	1.50	14.28

Conclusion:

The Fuel Stick (Fuel Conditioner) reduces the levels of sulphur dioxide and oxides of nitrogen in the exhaust gas emission of Diesel run vehicle by 58.08 % & 27.25 % respectively.

It also reduces the consumption of Diesel Fuel by 14.28 %.

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