Dr. Prashant Gargava
Member Secretary
डॉ. प्रशांत गार्गव
सदस्य सचिव

सत्यमेव जयते

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

AQM/Dust Suppressant/2018-19
September 24, 2019

Dear Shri Mishra

You are aware that air pollution levels in Delhi-NCR during winter season is a matter of serious concern and that various mitigation measures for control in air pollution are being discussed for implementation with the concerned enforcement agencies.

Of the various sources contributing to air pollution, dust generated from construction sites and roads is a major contributor. In order to address this problem, a study was awarded by CPCB on the use of dust suppressant and its effectiveness was studied for control of dust generation at certain roads and construction sites. Findings of the study indicate that use of dust suppressant along with water is relatively more effective in control of pollution than conventional method of dust control i.e. water spraying. About 30% reduction in dust concentration (PM_{10}, $PM_{2.5}$ and $PM_{1.0}$) was observed upto 06 hrs for construction sites as well as roads with the use of dust suppressant (Copy of the finding enclosed).

Dust suppressant may be applied on excavated earth surfaces, construction and demolition waste stock piles and on access roads at major construction areas. It can also be applied on C & D waste material before transportation to disposal site. The dust suppressant should not cause any hazard to public health and environment.

Considering the need of alternate improved measures for effective control of pollution during the upcoming winter season, DPCC may consider issuing necessary instructions to Road owning Agencies and Govt. Construction Agencies for use of dust suppressant at unpaved roads, roads with heavy traffic and construction sites respectively.

With regards

Yours sincerely,

(Prashant Gargava)
Member Secretary

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Dust Suppressant

A study was conducted with EPC funds monitored by CPCB to demonstrate the effectiveness of dust suppressant for control of dust generated from roads and construction sites. Effectiveness of dust suppressant was evaluated through CSIR-NEERI for the following three sites in Delhi involving construction activities like flyover construction, road construction and building construction:

1. Sarai Kale Khan Road (Road construction site)
2. DDA Construction site at Narela (Building construction site)
3. Dilshad Garden flyover to proposed Shahid Nagar Metro Station (Road construction site)

At each site, particulate matter concentration was monitored before and after application of dust suppressant. Dust suppressant mixed with water was applied twice a day for three days at the sites. PM_{10}, $PM_{2.5}$, $PM_{1.0}$ concentration was monitored each time before application of dust suppressant, and at different time intervals (10 minutes, 1 hr, 2 hrs, 3 hrs and 6 hrs) after dust suppressant application.

About 50 - 60% initial reduction in dust concentration was observed at these sites immediately after 10 minutes of application of dust suppressant from its background concentration level, which was measured before the application of dust suppressant. About 30% reduction in dust concentration was observed up to 6 hrs (PM_{10}, $PM_{2.5}$ and PM_1).

The overall efficiency of dust suppressant was found as below:

Session	Time period (after spraying dust suppressant)	PM $_{10}$ (% reduction)	PM $_{2.5}$ (% reduction)	PM $_{1.0}$ (% reduction)	Overall Efficiency (% reduction)
Morning	10 min	59.01	62.37	62.03	61.13
	1 hour	56.11	53.60	54.20	54.64
	2 hour	50.38	48.95	48.51	49.28
	3 hour	43.84	42.42	42.63	42.96
	6 hour	40.52	36.79	36.32	37.88
Evening	10 min	59.60	59.01	59.56	59.39
	1 hour	55.82	51.09	52.31	53.07
	2 hour	48.52	43.16	44.21	45.30
	3 hour	42.39	39.03	38.56	39.59
	6 hour	39.26	33.48	31.69	34.81

Based on the finding, NEERI has recommended use of dust suppressant for immediate control of fugitive dust emissions from construction activities and road dust as compared to sprinkling activity through water/ recycled water.