



Puducherry ENVIS Hub

(Environmental Information System)

Host Centre: Puducherry Pollution Control Committee
Funded by Ministry of Environment, Forest & Climate Change
Government of India, New Delhi



HAPPY DEEPAVALI

Deepawali is known as the 'Festival of Lights' and is one of the most important Hindu festivals in India. Deepawali essentially means the Awareness of the Inner Light. In a way, it is the celebration of the awakening and awareness of the Inner Light which has the power to outshine the darkness.

On this day, people decorate their home with diyas, rangolis and decorative lights, wear new clothes, exchange sweets and gifts with each other, burn crackers and in the evening perform, Lakshmi Puja.

Let See! How to Celebrate Eco-Friendly Deepawali

1. Save electricity consumption:



The energy used in normal electronic lights is wasted a lot instead of this use the traditional way to celebrate the festival and light diyas and candles which are the better replacement of it. Decorate our houses with flowers, LED lamps, LED diyas and rangolis.

2. Opt for Green Crackers:

Green crackers are basically reduced emission crackers wherein we reduce some harmful components like Barium, Aluminium, Potassium Nitrate and Carbon have either been removed or sharply reduced to slow down the emissions by 15 to 30%. They are eco-friendly. That is green crackers are less harmful as compared to conventional firecrackers and reduces air pollution.



3. Reduce plastic use:

During the Deepawali celebration, one thing that gets everyone excited about is Diwali shopping! However, shopping means a lot of plastic bags. Let's say 'No' to Single Use Plastic shopping bags and use cloth bags when going out for shopping.

4. Organic Rangoli Colours:



Rangolis are a huge part of Diwali celebrations. Pretty and colourful designs make our houses look beautiful, but synthetic colours are dangerous for the environment and unhealthy when inhaled and cause serious health issues.

Best opt for rangolis that can be made using flowers, or use eco-friendly colours that do not cause harm to our surroundings. Organic rangoli colours are available in the markets easily.

5. Go Organic

On Diwali, we express our happiness by exchanging gifts and sweets. Go organic this Diwali by gifting organic gifts to your friends and relatives. There are a number of options available in the market; you can gift organic soaps and creams, organic teas, spices, gourmet ice creams or coffee, gift plants.



You have a variety of ornamental plants at your disposal. Go for eco-friendly gifts like eco-friendly Diwali hampers and go soft on nature. A great way to start celebrating eco-friendly Diwali, changing your gifting habits is a great idea.



6. Eco-Friendly Diwali Gifting

One major tradition of Diwali is exchanging gifts. Instead of wishing your loved ones with sweets, try wishing them with green plants instead. Plants not only express the feelings of care towards someone, but they help to combat air pollution after Diwali. Gift beautiful greens like peace lily, philodendron plant, spider plant, china grass, snake plant, and others which are excellent air purifiers.



Decibel Limit for Crackers



The firecrackers with sound levels exceeding 125 dB (AI-weighted impulse sound pressure level in decibels), at a four metre distance from the point of bursting, is prohibited. The Manufacture, sale and use of joined firecrackers (series crackers or laris or Saravedi) is banned as per the Hon'ble Supreme Court Direction.

Enforcement:

The Puducherry Pollution Control Committee (PPCC), in compliance with Hon'ble Supreme Court of India has issued directions / advisory for celebrating safe and environmental friendly Deepavali.

The District administration in compliance with Hon'ble Supreme Court Direction has appealed to the public for bursting of Green crackers instead of other banned crackers which are detrimental to the Environment.

The crackers / fireworks will be permitted to burst for a two-hour duration only (as permitted by the District Administration) in compliance with Hon'ble Supreme court directions.

Firecrackers should not be burst in silence zones - areas located within 100 meters of hospitals, nursing homes, primary and district healthcare centers, educational institutions, courts, religious places or other areas that may be declared a silence zone by the concerned authorities.

District Administration has constituted team for inspecting and reporting the violations of the Hon'ble Supreme court directives and the prevailing Rules and Regulations.

PPCC has issued various circulars, infographics, webinars for creating awareness among the public, students about the ill effects of bursting of crackers.

Noise Standards for Fire-crackers

(The Noise standards for fire-crackers were notified by the Environment (Protection) (Second Amendment) Rules, 1999 vide G.S.R.682(E), dated the 5th October, 1999 and inserted as serial no. 89 of Schedule I of the Environment (Protection) Rules, 1986.

Subsequently these Rules were amended by the Environment (Protection) Second Amendment Rules, 2006 vide G.S.R. 640(E), dated the 16th October, 2006, under the Environment (Protection) Act, 1986)

- A.** (i) The manufacture, sale or use of fire-crackers generating noise level exceeding 125 dB(AI) or 145 dB(C)_{pk} at 4 meters distance from the point of bursting shall be prohibited.
- (ii) For individual fire-cracker constituting the series (joined fire-crackers), the above mentioned limit be reduced by $5 \log_{10}(N)$ dB, where N = number of crackers joined together.
- B.** The broad requirements for measurement of noise from fire-crackers shall be-
- (i) The measurements shall be made on a hard concrete surface of minimum 5 meter diameter or equivalent.
- (ii) The measurements shall be made in free field conditions i.e., there shall not be any reflecting surface upto 15 meter distance from the point of bursting.
- (iii) The measurement shall be made with an approved sound level meter.
- C.** The Department of Explosives shall ensure implementation of these standards.
- D.** The fire-crackers for the purpose of export shall be exempted from the sub-paragraphs A, B and C above, subject to the compliance of the following conditions, namely:-
- (i) the manufacturer shall have an export order;
- (ii) the fire-crackers shall conform to the level prescribed in the country to which it is exported;
- (iii) they shall have a different packing colour code, and
- (iv) there shall be a declaration on the box "not for sale in India" or "only for export in other countries."

Note:

dB(AI) : A-weighted impulse Sound Pressure Level in decibel

dB(C)_{pk} : C-weighted Peak Sound Pressure Level in decibel."

Noise levels of firecrackers under Explosives Rules 2008

What is Fireworks

"FIREWORKS" means low hazard explosive comprising of any composition or device manufactured with a view to produce coloured fire or flame, light effect, sound effect, smoke effect (coloured or natural), or combination of such effects and includes fog-signals, fuses, rockets, shells, percussion caps;

Colour or light emitting fireworks.

- Such fireworks which emit colour or light and having sound level not exceeding 90 dB (AI) at 4 m distance from the point of bursting;

Display Fireworks.

- Any product of fireworks assembled at the site for the purpose of display including shell of diameter exceeding 25 mm, multiple shots or cake

NATIONAL AMBIENT AIR QUALITY STANDARDS (2009)

No.B-29016/20/90/PCI-L- In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No. 14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
		Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (Notified by Central Government)	
Sulphur Dioxide (SO ₂), µg/m ³	Annual * 24 Hours **	50 80	20 80	-Improved West and Gaeke Method -Ultraviolet Fluorescence
Nitrogen Dioxide (NO ₂), µg/m ³	Annual * 24 Hours **	40 80	30 80	Jacob & Hochheiser modified (NaOH-NaAsO ₂) Method -Gas Phase Chemiluminescence
Particulate Matter (Size less than 10µm) or PM ₁₀ , µg/m ³	Annual * 24 Hours **	60 100	60 100	-Gravimetric -TEOM -Beta attenuation
Particulate Matter (Size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual * 24 Hours **	40 60	40 60	-Gravimetric -TEOM -Beta attenuation
Ozone (O ₃) µg/m ³	8 Hours * 1 Hour **	100 180	100 180	-UV Photometric -Chemiluminescence -Chemical Method
Lead (Pb) µg/m ³	Annual * 24 Hours **	0.50 1.0	0.50 1.0	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper -ED-XRF using Teflon filter
Carbon Monoxide(CO), mg/m ³	8 Hours ** 1 Hour **	02 04	02 04	-Non dispersive Infrared (NDIR) Spectroscopy
Ammonia (NH ₃), µg/m ³	Annual * 24 Hours **	100 400	100 400	-Chemiluminescence -Indophenol method
Benzene (C ₆ H ₆), µg/m ³	Annual *	05	05	-Gas Chromatography (GC) based continuous analyzer -Adsorption and desorption followed by GC analysis
Benzo(a)Pyrene (BaP) Particulate phase only, ng/m ³	Annual *	01	01	-Solvent extraction followed by HPLC/GC analysis
Arsenic (As), ng/m ³	Annual *	06	06	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper
Nickel (Ni), ng/m ³	Annual *	20	20	-AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper

* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

NOTE: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.

Air Quality Index (AQI)

Air Quality Index (AQI) is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour.

There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). The index has SIX colours schemes indicating the six categories. AQ sub-index and health breakpoints are evolved for eight pollutants which include PM_{10} , $PM_{2.5}$ for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed.

Type of AQI category	AQI Category and Colour scheme	AQI Range PM_{10} $\mu g/m^3$	AQI Range $PM_{2.5}$ $\mu g/m^3$	Break point 24 hourly	
				PM_{10}	$PM_{2.5}$
I	Good	0 – 50	0-30	50	30
II	Satisfactory	51 – 100	31-60	100	60
III	Moderate	101 – 250	61-90	250	90
IV	Poor	251- 350	91-120	350	120
V	Very Poor	351 – 430	121-250	430	250
VI	Severe	430+	250+	430+	250+

Source: Status of Pollution Abatement measures Firecrackers (patakas) October 2017 -CPCB

The key parameters that impacts ambient quality on bursting of firecrackers are mainly particulate matter. Operational scheme of AQI system based to represent the present status of the air quality and its effects on human health is given in CPCB's report 'National Air Quality Index (May 2015)'

THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

(The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.)

Various Litigations

1. SUPREME COURT OF INDIA I.A. No. 44727/2021 in WRIT PETITION(C) NO. 728/2015 Arjun Gopal and other Petitioners (Dated 29.10.2021)
2. Hon'ble NGT vide order dated 01/08/2019 in the matter of O.A No. 519 of 2016 titled; Hardeep Singh &Ors Vs SDMC &Ors





