

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 3585
TO BE ANSWERED ON 20.12.2021

Discharge of Toxic into Rivers

3585. SHRIMATI PRENEET KAUR:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government is aware of the increase in the chemical and pharmaceutical pollution of rivers and soil due to irresponsible discharge of chemicals and pharmaceutical compounds from industries and if so, the details, thereof;
- (b) whether there are any regulations that limit the concentration of API residue in the wastewater released from hospitals, and pharmaceutical manufacturing units and if so, the details thereof;
- (c) if not, whether the Government plans to implement a framework that limits the concentration of API residue in the wastewaters released from hospitals and pharmaceutical manufacturing units;
- (d) whether the common effluent treatment plants are capable of neutralizing API residue present in the wastewater of hospitals and pharmaceutical manufacturing units; and
- (e) if not, whether the Government is exploring any novel technological interventions to neutralize the API residues present in the wastewaters of hospitals and pharmaceutical manufacturing units?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) Water quality of aquatic resources covering surface and ground water is monitored at 2026 locations on rivers under National Water Quality Monitoring Programme (NWMP). A set of micro pollutants (metals and pesticides) are monitored. Standards/criteria for pesticides parameters in rivers and other water bodies are not notified, however, BIS has specified IS 10500: 2012 which include pesticides parameters. Findings of pesticides parameters monitored under NWMP for major rivers viz. Beas, Cauvery, Ganga, Ghaggar, Godavari, Mahanadi, Narmada, Sabarmati, Satluj, Tapi and Yamuna during 2020 ranges between BDL to 0.06 microgram/L for Alpha -HCH), BDL to 0.37 microgram/L for Beta HCH, BDL for Gama HCH, o-p DDT, pp DDT, Alpha , Beta Endosulphan, BDL-0.07 microgram/L for Aldrin, BDL for Dieldrin, Chloropyriphos, Methyl Parathion, Malathion, BDL -0.05 microgram/L for Anilophos. Detail table for water quality data of pesticides parameters in major rivers is given at **Annexure I**

The monitoring is conducted and analyzed for various physico-chemical, micro-biological and micro-pollutants (metals & pesticides) parameters as per Guidelines for Water Quality Monitoring, 2017 issued by Ministry of Environment, Forest and Climate Change , (Annexure-I) and are available on the link https://cpcb.nic.in/wqm/Guidelines_Water_Quality_Monitoring_2017.pdf

The Government has prescribed industry specific effluent discharge norms including for chemical industries, which is revised from time to time. The Environmental standards for pharmaceutical industries was revised and notified on 06.08.2021. These industries are permitted to operate only after having adequate Effluent Treatment Plants (ETPs) and Air Pollution control devices (APCDs). Non-compliance observed to the discharge norms are appropriately dealt by issuance of show causes notice or closure, within the provision of the Water (Prevention and Control of Pollution) Act,1974 or the Air (Prevention and Control of Pollution) Act,1981.

Central Pollution Control Board (CPCB) has issued directives for close monitoring of industrial discharges to control pollution including chemical and pharmaceutical unit.

(b) & (c) Expert committee has considered Antibiotic residue standard for pharmaceutical sector and has not accepted for the reasons, including the followings:

- i. No other country in the world implemented these standards.
- ii. PNEC (Predict No Effect Concentration) values, one of the basis for standards poses challenge for compliance by any static treatment option to meet the dynamic nature of the PNEC values published by a consortium of AMR manufacturer.
- iii. Implementation, monitoring and compliance challenges for 121 antibiotics standards.

(d) & (e) Common Effluent Treatment Plant is a collective treatment system for treatment of effluents from small and medium scale industries located in industrial areas. The discharge limits for general and specific parameters are notified by the Government (**Annexure-II**). Active pharmaceutical Ingredients (API) is not a notified parameter for CETPs. However, BOD and COD of the wastewater are contributed by the API components. The CETPs having appropriate primary and secondary treatment process with adequate capacity and followed by tertiary treatment as per requirement of influent wastewater quality are capable to meet the prescribed norms of BOD and COD.

No study has been conducted to explore any novel technological intervention to neutralize the API residues present in the wastewaters of hospitals and pharmaceutical manufacturing units, however, concentration of APIs was not detected in the outlet of Effluent Treatment Plants of Pharmaceutical industries during the project study of "Comprehensive Industry Document on Pharmaceutical Industry and Development of Emission Standards" by CPCB.

Annexure I

Annexure I referred in Part (a) of the reply to the Lok Sabha Unstarred Question No. 3585 due for answer on 20.12.2021 regarding 'Discharge of Toxic into Rivers'

**Table - I
Water Quality data of Major rivers w.r t Pesticides parameters monitored under NWMP in the year
2020**

Name of River	No. of Stations Monitored under NWMP	Alpha HCH (µg/L)			Beta HCH (µg/L)			Gamma HCH (µg/L)			o,p' DDT (µg/L)			p,p' - DDT (µg/L)			Alpha Endosulphan (µg/L)		
		No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max
BEAS	36	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	4.5	10	BDL	BDL
CAUVERY	64	35	BDL	BDL	23	BDL	BDL	35	BDL	BDL				14	BDL	BDL	14	BDL	BDL
GANGA	92	16	BDL	BDL	2	BDL	BDL	16	BDL	BDL	17	BDL	BDL	15	BDL	BDL	16	BDL	BDL
GHAGGAR	27	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL
GODAVARI	43	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL
MAHANADI	28	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	0.05	1	BDL	0.05	1	BDL	BDL
NARMADA	56	2	BDL	BDL	1	BDL	BDL	2	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL
SABARMATI	13	1	BDL	BDL	1	BDL	BDL				1	BDL	BDL	1	BDL	BDL	2	BDL	BDL
SATLUJ	50	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL
TAPI	17	6	BDL	BDL	6	BDL	BDL	6	BDL	BDL	6	BDL	BDL	7	BDL	BDL	7	BDL	BDL
YAMUNA	53	10	BDL	0.06	10	BDL	0.37	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL
Total	479	114			87			113			79			92			94		

Table - II

Water Quality data of Major rivers w.r t Pesticides parameters monitored under NWMP in the year 2020

Name of River	No. of Stations Monitored under NWMP	Beta Endosulphan (µg/L)			Aldrin (µg/L)			Dieldrin (µg/L)			Chloropyriphos (µg/L)			MethylParathion (µg/L)			Anilophos (µg/L)			Malathian (µg/L)		
		No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max	No. of Stations for which data available	Min	Max
BEAS	36	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	BDL	BDL	10	5	5
CAUVERY	64	14	BDL	BDL	21	BDL	BDL	21	BDL	BDL	13	BDL	BDL	13	BDL	BDL	1	0.05	0.05	14	BDL	BDL
GANGA	92	16	BDL	BDL	15	BDL	BDL	16	BDL	BDL	16	BDL	BDL	15	BDL	BDL	2	BDL	BDL	16	BDL	BDL
GHAGGAR	27	14	BDL	BDL	14	3	3	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL	14	BDL	BDL
GODAVARI	43	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL				1	BDL	BDL
MAHANADI	28	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL
NARMADA	56	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL	1	BDL	BDL				1	BDL	BDL
SABARMATI	13	2	BDL	BDL	2	BDL	BDL	2	BDL	BDL												
SATLUJ	50	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL	18	BDL	BDL
TAPI	17	7	BDL	BDL	7	BDL	BDL	7	BDL	BDL												
YAMUNA	53	10	BDL	BDL	10	BDL	0.07	10	BDL	BDL	13	BDL	BDL	13	BDL	BDL				13	BDL	BDL
Total	479	94			100			101			87			86			46			88		

Annexure II

Annexure II referred in Part (d) & (e) of the reply to the Lok Sabha Unstarred Question No. 3585 due for answer on 20.12.2021 regarding 'Discharge of Toxic into Rivers'

Parameters and frequency for analysis of ground water samples

Type of Station	Frequency	Parameter
Baseline:	Twice a year (Pre & Post monsoon season)	<p>A. Pre and Post Monsoon Season: Analyse 22 parameters as listed below :</p> <p>a. General : Colour, Odour, Temperature, pH, EC, TDS</p> <p>b. Nutrients : NO₂, NO₃, Orthophosphate</p> <p>c. Organic Matter : COD</p> <p>d. Major ions : K⁺, Na⁺, Ca⁺⁺, Mg⁺⁺, CO₃⁻⁻, HCO₃⁻, Cl⁻, SO₄⁻⁻,</p> <p>e. Other inorganics : F, B and other location-specific parameter, if any</p> <p>f. Microbiological : Total and Faecal Coliforms</p> <p>B. Micropollutants:</p> <p>(i) Pesticides-Analyse once a year during Pre-monsoon period Alachlor, Atrazine, Aldrin/ Dieldrin, Alpha HCH, Beta HCH, Gama HCH (Lindane), Delta HCH, Butachlor, Chloropyriphos, 2,4-Diphenoxyacetic acid, OP-DDT, PP-DDT, DDE, DDD, Alpha Endosulphan, Beta Endosulphan, Sulphate Endosulphan, Ethion, Isoproturon, Malathian, Methyl Parathian, Monocrotophos, Phorate</p> <p>(ii) Toxic Metals- Analyse twice a year during Pre-monsoon and Post-monsoon periods As (III & V), Al, Ag, Cd, Co, Cu, Cr (III & VI), Fe, Pb, Mn, Hg, Mo, Ni, Se, Zn (The parameters may be selected based on local need)</p> <p>(iii) Poly Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls (PCB) and Trihalomethanes (THM) – Analyse as per site requirement.</p>
Trend and Hotspots:	Twice a year (Pre & Post monsoon season and other times, if required)	<p>A. Pre and Post Monsoon Season: Analyse all the parameters including Micropollutants as listed for Baseline stations.</p> <p>B. Other times (if required): Analyse 15 parameters as listed below:</p> <p>a. General : Colour, Odour, Temperature, pH, EC, TDS</p> <p>b. Nutrients : NO₂, NO₃, Orthophosphate</p> <p>c. Organic Matter : COD</p> <p>d. Major ions : Cl⁻,</p> <p>e. Other inorganics : F, B and other location-specific parameter, if any</p> <p>f. Microbiological : Total and Faecal Coliforms</p> <p>g. Micropollutants : As per site specific requirement</p>