

Decision of Ministry of Environment, Forest and Climate Change with respect to discussion on issues pertaining to clarifications sought on Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, as approved by the Competent Authority on the basis of recommendation of the 76th Meeting of the Technical Review Committee (TRC) held on 24th January, 2023-reg.

AGENDA No.1. Clarification with respect to Hazardous and other Wastes (Management & Trans-boundary Movement) Rules, 2016.

Agenda 1.1 Use of Crumb Rubber recovered from waste tyres for building Green Roads by Material Recycling Association of India (MRAI)

MRAI has mentioned that the usage of Crumb Rubber Modified Bitumen (CRMB) material in road construction would also ensure safer and superior roads with more cost-effectiveness. It is also stated that major institutes like Central Road Research Institute (CRRI), and HRS-Chennai, IIT's have done extensive research which confirms that roads made with CRMB will last longer, reduce noise pollution, help in increasing axle loadability, and in the process create a very safe and efficient use of waste tyres, that would otherwise be used in illegal and polluting applications like pyrolysis.

IRC (Indian Road Congress) 37:2018 (relevant pages enclosed) recommends the use of modified bitumen only for highways handling traffic 50 MSA (million standard axles) and above while considering the merits of Modified bitumen, it should be used for other types of roads as well. The directions may also be issued by MoEFCC to make a minimum of 30% of roads with CRMB.

The matter was discussed in the 75th Meeting of TRC held on 17th November, 2022 and as no representative of the company joined the meeting, the committee therefore deferred the case for next meeting for better understanding of the case.

Accordingly, matter re-considered by TRC in its 76th meeting.

Deliberation: The committee deliberated upon the issue observed and heard the views of representative of Ministry of Road Transport and Highways (MoRTH) and Material Recycling Association of India (MRAI). The representative of MoRTH informed that there are IRC guidelines and all the requisite enabling provisions such as IRC: SP: 53-2010, IPC: SP: 107-2017, BIS: 17079-2019.

IRC: 37-2018 recommends the use of modified bitumen in wearing course mix for design traffic greater than 50 MSA. Also modified bitumen in wearing course mix is optional for design traffic less than equal to 50MSA as per IRC: 37-2018.

However, wider adoption of modified bitumen on ground is an issue broadly due to segregation of appropriate tyre (Truck tyre is appropriate not the car tyre), type of rubber, size of crumb rubber, SOP of Bitumen Modification in place i.e. requirements of high shear mills and its specifications. In view of these, following need to be done first and to be submitted for its consideration by the Committee of Indian Road Congress (IRC):

- i) **What is the internal quality control mechanism/regulation of MRAI for the certification of crumb rubber producers?**
- ii) **Mapping of all the crumb rubber producers across the country along with its facility to produce desirable crumb rubber, certification by MRAI and its output.**
- iii) **Detailed SOP of bitumen modification procedures.**
- iv) **Total circular recycling of EOL (End of Life) Tyres.**
- v) **Global scenario/regulations for its use in bituminous mixes.**

Recommendation: After detailed deliberation on the issue the committee is of the opinion that the MRAI needs to provide requisite details as mentioned by representative of MoRTH. The committee also felt that interaction with few big contractors who have used CRMB in road building is required to understand the feasibility of using CRMB in building roads. Accordingly, matter was deferred for re-consideration by the TRC after receipt of requisite details.

Agenda 1.2 Representation from M/s Finster Black Private Ltd regarding grant of permission of import of 50,000 MT per annum of Used tyre scrap in baled/multicut form for a period of 10 years for manufacturing of Recovered Carbon Black.

M/s Finster Black Private Ltd has mentioned that currently India produces 16,00,000 tonnes of Virgin Carbon Black using CBFS carbon black feedstock (crude based oil) & pitch oil. This contributes more than 2 tons of CO₂ emitted to the atmosphere for every ton produced. CBFS is imported in the country. 90% of the virgin carbon black produced goes for the manufacturing of rubber tyres and rubber products. Around the world countries have started promoting recovered carbon black as a substitute of virgin carbon black and save the environment. Recovered carbon black is produced by using rubber and tyre scrap as a raw material. NITI Aayog in its report on rubber and tyre scrap recycling has promoted the use of Recovered carbon black.

Further, it is mentioned by the applicant that Indian local tyre scrap is available in a limited way and quality of scrap is not good because of the multiple reuse and high ash content. In view of this and in order to kick start the recovered carbon black industry, M/s Finster Black Private Ltd has requested to grant of permission of import of 50,000 MT per annum of Used tyre scrap in baled/multicut form for a period of 10 years.

Proposal was earlier considered in 75th meeting of TRC held on 17.11.2022 and after detailed deliberation, TRC was of the opinion that more clarification in terms of process details, material balance and disposal of by-product is required. The applicant may be requested to make a detailed presentation along in next meeting incorporating above issues. The matter will be reconsidered by the TRC in forthcoming meeting.

Accordingly, matter re-considered by TRC in its 76th meeting.

Deliberation: The committee deliberated upon the issue and heard the presentation of M/s Finster Black Private Ltd. Representative of M/s Finster Black Private Ltd made a detailed presentation in terms of process details, material balance and disposal of by-product etc. The committee noted that Pyrolysis is the intermediate process for making recovered carbon black (RCB). And 10% of the oil extracted is used for drying process and rest is exported. The committee also asked representative of M/s Finster Black Private Ltd why they have not use rejected tyres available locally and about the presence of Zinc Oxide in the recovered carbon black. Applicant informed the TRC that the waste/reject tyre available locally have high silica content that result in higher ash content resulting in adding a negative value. Regarding presence of zinc oxide, they have clarified that it adds value to the product. The committee was informed by the representatives of Finster that they needed an assurance of availability of raw material over long term to be able to persuade or convince bankers to provide loan to finance the project. The committee noted that the permissions are usually given based on production of previous year and are valid for a period of one and half year only. The need for some kind of certainty in availability of imported waste raw material had also been flagged by the Expert Working Group. However, considering the possibility of diversion, and the possible impact on domestic waste collection, the EWG had suggested a guarded approach of classifying importers and introducing some kind of star rating system. The same is yet to be established. Committee also noted that this is an established industry in other countries and has been accorded the highest weightage in the newly promulgated EPR framework for tyres. though the investment required was not small, it was also not very large but on balance, the committee felt that the framework should not inhibit new process or technology and accordingly made the following recommendation.

Recommendation: After detailed deliberation upon the issue, the committee recommended that the permission for import of 50000 MT of Used tyre scrap in baled/multicut form for production of Recovered Carbon Black (RCB) which will replace the virgin Carbon Black in manufacturing Industry, may be granted initially for a period of 3 years on pilot basis with following conditions to be levied while granting permission:

- i) The process should be result in a yield of RCB comparable to the yields being obtained in other well established plants for manufacture of RCB. 100% of the RCB produced by the units should be sold to manufacturer for replacing the virgin carbon black. The recovered other byproducts during the process should conform to relevant specifications and no part of the recovered carbon should go for energy recovery or any other use or to landfill.
- ii) The units should have commensurate electricity consumption.
- iii) The sale to the manufacturing units shall be verified through GST paid and other supporting evidence.
- iv) The permission will be issued only after verification from CPCB which will be carried out annually.

- v) **Fresh Investment of minimum Rs. 25 crore from 1.4.2022 onwards.**
- vi) **Minimum land area of 5 acres of the unit.**
- vii) **The process should be completely automated and environment friendly with zero emission of carbon black particle in environment.**
- viii) **The RCB end product should be in the form of granule to check the dispersion in the environment.**
- ix) **Whole process of production of RCB from waste/scrap tyre should be completed in the same premises.**

Once this policy recommendation of the TRC is considered and approved by the competent authority, the application for actual import may be placed before the EC. The EC may further levy any conditions as deemed fit while giving the permission for import. This policy will be reviewed after 3 years.

Agenda 1.3. Request to acknowledging de-lined Copper Inserted Cathode Bars (CICBs) non-hazardous under category 3D of Basel Convention and necessitating State Pollution Board to issue necessary approval and allow to import these CICBs – Tata International Limited

Tata International Limited (PAI) Division supplies Cathode bars, Anode bars and Copper inserted cathode bars (CIBs) to Aluminium Smelters across Oceania, Asia, middle East, Africa, Europe and North America. TATA supplies more than 60,000 MT Cathode bars, Anode bars and Copper inserted cathode bars (CIBs) annually from India. Tata International Limited (PAI) Division want to recover the precious metal copper along with steel scrap (HMS) from spent steel bars. The process to extract is purely mechanical using operation of saw cutting and Gas cutting, and no Thermo - Chemical process is involved. The material extracted shall also remain in solid state in nature and would not change.

TATA has mentioned that an authorization has been issued to M/s Aditya Aluminum Limited by PCB, Odisha for similar processing as the used collectors bars are not considered in the list of hazardous items. Since, there was precedence, TATA requested Andhra Pradesh Pollution Control Board for seeking clarification and NOC w.r.t. importing the scrap bars along with report of Schedule II test result from NABL accredited laboratory.

TATA also requested CPCB for approval of issuance of CFE for recovery of copper from used cathode bars and acknowledging de-lined CICBS as Non Hazardous. APPCB cited the clarification of CPCB and specific approval of MoEF&CC for import of copper inserted bars along with chemical composition of surface of the spent bars. In this regards a test report by SV Enviro Lab (recognized by MoEF&CC, accredited by NABET and NABL) on all the possible toxic elements & other heavy metals via TCLP was found to be within the PCB/ LPCBs standards.

APPCB has direct to M/s Hayagreevaya Enterprises (Tata's external processing agent) that in case of dispute the matter has been referred to TRC constituted by MoEF&CC. CPCB also asked M/s Hayagreevaya Enterprises to submit schedule I report for the Used CICB's. Though Tata International Limited submitted an application in July, 2022 to MoEF&CC clarifying that these Bars are metal scrap (Steel and Copper) does not require Schedule testing & in this regard Schedule II test report is being submitted.

The schedule II test report submitted by NABL Accredited Varsha Bullion & Elemental Analab, SV Enviro Lab, Vishakhapatnam & report from Andhra University confirms that the material is non-hazardous in nature.

In this regard, Tata International Limited has requested to kindly for de-lined Copper Inserted Cathode Bars (CICBs) as non-hazardous under category 3D of Basel Convention and direct State Pollution Control Board to issue necessary approval.

The matter was earlier discussed in 75th meeting of TRC held on 17.11.2022. After detailed deliberation, TRC recommended a detailed presentation may be given by TATA International Limited. Committee also recommended that Tata International Limited may also submit the observation/clarification on the difference between the category given in the authorization issued to M/s Aditya Aluminum Limited by PCB, Odisha and applied by TATA International Limited to PCB Andhra Pradesh. The matter will be reconsidered by the TRC in forthcoming meeting.

Accordingly, matter re-considered by TRC in its 76th meeting.

Deliberation: The committee deliberated upon the issue and heard the presentation made by the applicant who explained that Copper Inserted Cathode Bars (CICBs) has copper rods inserted with steel bars. Committee also discussed other relevant aspects and past decisions on similar issues. It was felt that more discussion is required on the subject.

Recommendation: Decision on the issue was deferred for the next meeting of TRC.

Agenda 1.4 Regarding Consent on Notification Procedure for Import of Aluminium Wine Caps from Synergy Tradeco NV Belgium to M/s Swift Strips India Pvt Ltd, India by Synergy Tradeco.

The material under consideration is 'Aluminium wine caps' which is collected in Europe by a supplier named Stenofer, Willebroek, Belgium. This material contains above 95% of Aluminium and rest material is impurities containing mainly glass, oxidised dust, very few plastic or rubber pieces etc. The test/analysis reports of the subject material in India as well as in Belgium is also provided.

This material is being imported into India regularly by Swift Strips India Pvt Ltd from different countries i.e, Netherlands, UK and also from Belgium in past under Basel code B1010.(Copy of the Bill of Lading, Bill of Entry for import into India and other relevant doc with some photos is also given).

As per the inspectors of Belgium Environment Authorities (i.e. OVAM) who had a physical inspection of material and give his opinion that this material contains a high non mantellic part, so they considered it as 'Non Listed' material in the Basel convention and suggested to follow a notification Procedure for this particular shipment of 1000 MT from Belgium to India to our customer Swift Strips Pvt Ltd. Accordingly, Belgian authorities send a email for prior consent to ship this material to India to the customer Swift Strips Pvt Ltd. The Belgium Authorities require your prior consent in Box 20 of the notification document BE0001012649 also sent along in the document including the English translation of this notification document.

In this regard, Synergy Tradeco NV has requested to kindly consider the above item under B1010 and issue necessary approval and consent.

Deliberation: The committee deliberated upon the issue and heard the views of Synergy Tradeco.

Recommendation: After detailed deliberation upon the issue the committee is of the opinion that the pictures showed by the applicant during the presentation, have mixed contaminants including municipal and other wastes besides Aluminium Wine Caps and it cannot be considered under the Basel Number B1010 of Part D of Schedule III of Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016.

Agenda 1.5 Request to allow import of washed PET Flakes (made from waste PET bottles) to actual Pet bottles recyclers who are manufacturing recycle polyester staple fiber (PSF) and Polyester Filament Yarn (P.O.Y & P.F.Y.) where production in the year 2020-21 & 2021-22 is less than 70% of the consented capacity by M/s All India Recyclable Fibre & Yarn (AIRFY).

Recommendation: Deferred for next meeting.

Agenda 1.6 Transportation of Spent Catalyst through non-Hazardous Waste Vehicles by M/s Hindustan Platinum Private Limited, Navi Mumbai, Maharashtra.

Recommendation: Deferred for next meeting.

Agenda No. 2. ANY OTHER ITEM WITH PERMISSION OF THE CHAIR

Agenda 2.1

- i. Request for consideration of spent acid containing HCL as Co-product/by-product rather Hazardous Waste - M/s KLJ Organics Limited, Jhagadia, Gujarat.**
- ii. Request for consideration of hydrochloric acid 20-36% and sodium hypochlorite generated through industrial process as by product – M/s Shivtek Industries Private Limited.**
- iii. Request for recognizing the HCL of Chlorinated Paraffin as by-product and application for recognizing Purified Hydrochloric Acid (Pharmaceutical Grade 33-35%) as product instead of Hazardous waste – M/s Payal Polyplast Pvt. Limited**

The above proposal was earlier discussed in 74th meeting of TRC held on 20.09.2022. After detailed deliberation, TRC recommended that CPCB will prepare inventory of the HCl produced

in the country, analysis of different grades of HCl and compare the treatment of HCl in different SPCB jurisdictions. Also, the data available in public domain will be analyzed. The matter will be reconsidered by the TRC in forthcoming meeting.

Accordingly, matter was re-considered by TRC in its 75th meeting held on 17th November, 2022. The recommendation of the committee is as follows:

“It was decided that the HCL with purity 32% and above may be considered as product/by-product by the respective SPCBs/PCCs (state of origin), to be supplied to end user only, subject to the following:

- i. Type of equipment/technology used by the producer.
- ii. Sales to be made only to end users and no sales to be allowed to traders.
- iii. Submission of details of end users to whom the HCL is to be supplied and verification by the SPCB of the requirement of such end users, especially their capacity to use the HCL sought to be bought.
- iv. The movement of HCL from Producer to End User under GPS tracking.
- v. Quarterly report of HCL produced and supplied by a unit to end user should be submitted to the concerned SPCBs/PCCs.

The above details may be furnished to the SPCB which will place the matter before the committee which may classify the HCL as by-product based on the compliance of the above conditions. SPCBs may regularly check and ensure compliance of the condition stipulated in the permission granted to them.”

While minutes was submitted for approval of competent authority in the Ministry, it was desired to get the report from CPCB as recommended by TRC in its 74th meeting before final decision in the matter.

In view, CPCB was requested to prepare inventory of the HCl produced in the country, analysis of different grades of HCl and compare the treatment of HCl in different SPCB jurisdictions and provide to the Ministry. Thereafter, CPCB has submitted the report on "Inventory of HCl generated from Chloralkali Plants and Production of Chlorinated Paraffin Wax" based on the information received from 25 SPCBs/PCCs. The matter was then discussed in 76th Meeting of TRC.

Deliberation: The committee deliberated upon the report submitted by the CPCB. The report points out that HCL is produced in 14 out of the 25 states that have submitted the information. There are 65 units manufacturing CPW through chlorination which generates about 5,17,435 MT of spent HCl. The concentration ranges between 28 to 36 percent. It is mostly classified as a by-product and is being sold to actual users, traders and is also exported. However, there seems to be a significant gap (22%) between the reported utilisation and expected generation. Gujarat accounts for a large proportion of the production. There are 27 chloralkali units producing 16,89,680 MT of HCl, which is classified mostly as product/ by-product. The concentration ranges between 30 to 34 percent.

The CPCB report has again highlighted the dilemma we are faced with. HCl is a bulk chemical, widely used, but because it is produced in stoichiometric proportions during the production of other chemicals, the quantity produced is not linked to its demand, resulting in excess, which is nothing but waste, and given its characteristic, a hazardous waste. Classifying it as a by-product in a case where there is no demand would only facilitate unregulated disposal of a hazardous chemical. On the other hand, classifying it as a waste would prevent its legitimate use on the pharmaceutical industry or for exports. The committee also considered the possibility of only classifying Chemically pure (CP) or Analytical grade (AR) grade HCl as non-hazardous. However, the industry representatives pointed out that the bulk of production is of Technical grade HCl and such a restricted classification would not resolve the dilemma. The committee therefore had recommended a via media, wherein the case of each producer could be judged based on the process, purity and demand. The committee also recommended that while HCl may not be uniformly classified as a by-product or waste, its movement and utilization should comply with all the requirements for the movement and utilization of hazardous waste.

Needless to say, the situation warrants continued and heightened vigilance by the SPCBs and CPCB and especially the gap between the reported production and utilisation of HCl needs to be expeditiously reconciled.

Recommendation: After deliberation on the report, the committee re-iterated its decision taken during the 75th meeting held on 17th November, 2022, which is as follows:

“It was decided that the HCL with purity 32% and above may be considered as product/by-product by the respective SPCBs/PCCs (state of origin), to be supplied to end user only, subject to the following:

- i. Type of equipment/technology used by the producer and the ability to produce HCl with purity of 32 per cent and above.
- ii. Sales to be made only to end users and no sales to be allowed to traders.
- iii. Submission of details of end users to whom the HCL is to be supplied and verification by the SPCB of the requirement of such end users, especially their capacity to use the HCL sought to be bought.
- iv. The movement of HCL from Producer to End User under GPS tracking.
- v. Quarterly report of HCL produced and supplied by a unit to end user should be submitted to the concerned SPCBs/PCCs.

The above details may be furnished to the SPCB which will place the matter before the committee which shall classify the HCL as by-product if the above conditions are complied with SPCBs may regularly check and ensure compliance of the condition stipulated in the permission granted to them.
