

Minutes of 4th Committee Meeting (2020-21), for By-Products and Hazardous waste categorization

Date : 02/09/2021

Venue : Microsoft Team Video conferencing.

Committee Members present for the meeting:

1.	Shri Ashok Shingare	Chairman
2.	Dr. V. M. Motghare, Joint Director (APC)	Member
3.	Dr. Y.B. Sontakke, Joint Director (APC)	Member
4.	Dr. N. N. Gurav, RO(HQ)	Member
5.	Shri P. K. Mirashe, Assistant Secretary (Tech), MPCB	Member convener

Assistant Secretary (Tech.), MPCB, Member convener of the Committee, welcomed all the members of the Committee and requested Member Secretary, MPCB, Chairman of the committee to permit proceedings of the meeting to start.

Member Convener of the Committee briefed about the, guidelines issued by CPCB in May 2019 for Identification of Materials Generated from Industrial Processes as Wastes or By-products [Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016].

Definitions of Waste and by-products as per MoEF notification dated 04th April, 2016 which is a supersession of the Hazardous Wastes (Management, Handling and Transboundry Movement) Rules, 2008.

"Waste" means materials that are not products or by-products, for which the generator has no further use for the purposes of production, transformation or consumption. This excludes residuals recycled or reused at the place of generation.

"By-products" means a material that is not intended to be produced but gets produced in the production process of intended product and is used as such.

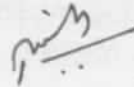
Policy of MPCB about products to be considered as By-product or Hazardous Waste is as mentioned below.

- (i) If the by-products and Hazardous Waste are mentioned in Environmental Clearance (EC) under the individual heads & its end use is justified, then they are to be considered accordingly without any further justification.
- (ii) In EC, if any item is mentioned as By product but requires further justification then this can be discussed by taking into consideration its end use as a raw material for manufacturing new product.
- (iii) In EC, if any item is mentioned in hazardous waste, then industry shall obtain amendment in EC accordingly.



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- (iv) If, the by-product is not mentioned in EC then the process of prefeasibility study shall be taken up so as to ascertain the end use of the by product as a raw material for manufacturing of new product.
- (v) A material that is not intended to be produced but gets produced in the production process of intended product and it is identified as a by-product to confirm that the material's use "as such" is feasible & does NOT involve any adverse impact on the environmental & human health and risk of hazards, and its Safety Data Sheet is prepared and submitted by the generator of the material.



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On the basis, of request made by the industries, the members thereafter deliberated on the agenda items placed before the committee and following decisions were taken.

Agenda Item No.	1
Proposal No.	MPCB-BY_PRODUCT-0000000014.
Project Details	M/s. Sudarshan Chemical Industries Limited. Plot No A- 19 /1+2 MIDC Mahad Dist. Raigad - 402309.
Environmental Clearance details	No. SEIAA-EC-0000001484 dated 23.04.2019.
Consent details	No. Format/1.0/BO/CAC-Cell/UAN No.-0000081369/O&A/13th CAC-1912000735 dated 13.12.2019 which is valid up to 30/04/2022 for manufacturing of Pigments (Pthalo Blue/Green Pigments, Organic Pigments, Inorganic Pigments, Mica Pearl Pigments) 730 MT/M

Introduction:

Industry has obtained Environmental Clearance from SEIAA, GOM vide dtd 23.04.2019, for manufacturing of;

- 1) Heterocyclic Pigments and Dyes (Copper Phthalocyanine Blue, Alpha Blue, Beta Blue, Pigment Green, etc)- 6360 TPA to 29496 TPA (proposed 23136 TPA).
- 2) Mica Pearl Pigments- 2136 TPA to 3000 TPA (proposed 23136 TPA).
- 3) Cogen Power- 0 MW to 10 MW (proposed 10 MW)
- 4) Aluminium hydroxide (Dry)- 0 TPA to 4275 TPA (proposed 4275 TPA)
- 5) Hypochlorite (<10%)- 0 TPA to 13383 TPA (proposed 13383 TPA)
- 6) Hydrochloric Acid (25%-30%)- 0 TPA to 7380 TPA (proposed 7380 TPA)

Along with 14 nos. of by-products, out of these 14 nos. of by-products, 10 nos. of by-products are mentioned as Hazardous Waste in consent granted by the Board.

Out of these 10 nos. of HW, industry has now applied to consider 05 nos. of by-products mentioned as Hazardous Waste in C to O granted by the Board namely;

- 1) Chemical gypsum
- 2) Sulphuric acid (15-25%)
- 3) Aluminum chloride
- 4) Copper sulphate
- 5) Hypo chlorite

Industry's submission:

- 1) Industry during presentation has submitted that all the products mentioned in the application for consideration of by-products are listed in the EC as by-products. There are total 14 nos. of by-products mentioned in EC, out of which 10 nos. are mentioned

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as Hazardous Waste in existing CTO. Now, out of these 10 nos. of HW, industry has applied for 5 nos. of HW to be considered as by-product.

- 2) Industry has uploaded the source of these by-products i.e. from which product manufacturing the particular by-product is generated. Also, product flow diagrams are uploaded showing point of its generation.
- 3) Industry has uploaded the analysis reports about the purity of by-products which is above 90%.
- 4) Industry has uploaded some of the names of the direct end users for each of the by-product.

Sr. No.	Name of By-Product	Quantity (MT/A)	Generated from Product /source	Remarks
1	Chemical Gypsum (CaSO ₄)	7200	From Mother Liquor of BG EPP plant.	Generated after neutralization of mother liquor.
2	Sulphuric Acid (H ₂ SO ₄ 15-25%)	30000	Blue Pigment	Generated after drowning the reaction mass in water, hence 98% acid is diluted to 15% to 25% without any other contaminants. The purity is 99.8%
3	Aluminum Chloride (AlCl ₃) (5-15%)	18000	Phthalocyanine Green	Generated after drowning the reaction mass in water, hence 98% AlCl ₃ is diluted to 05% to 15% . The purity is 99.8%
4	Hypochlorite (<10%)	1200	Green Pigment	Generated from scrubber of chlorine gas. Hence, there are no contaminants.
5	Copper Sulphate (CuSO ₄)	192	Green Pigment (Copper Sulphate extraction step)	Generated from recovery of Copper from mother liquor.

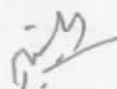
Committee Decision:

Committee noted that the products for which industry has applied to be considered as by-products are mentioned as by-products in Environmental Clearance granted to the project vide dtd., 23.04.2019.

The said by-products are also not listed in the schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. It's further treatment at CHWTSDF will be unnecessarily increasing the burden on environment due to unwarranted use of neutralizing/treating chemicals when it can be used directly as raw materials and not containing any other pollutants.

It was also observed that the end users are direct users, not traders and will be using these by-products directly as raw material without any treatment for manufacturing their products.

Aluminum Chloride (AlCl₃) (5-15%) is widely used as a very powerful co-agulating agent in wastewater treatment, where huge quantities of Aqueous Aluminum Chloride (Solution) are required on daily basis. As it is used in very less quantities, in ppm, the increment in



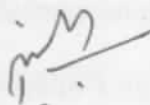
COD is negligible and whereas its use will save huge cost as otherwise spent on other co-agulants such as alum, ferrous sulphate etc., Its further treatment at CHWTSDf, for generated waste, will be unnecessary increase the burden on environment due to unrequired use of neutralizing/treating chemicals when it can be used directly as co-agulating agent and not containing any other pollutants.

Other by-products are used directly for the manufacturing of chemical intermediates while Chemical Gypsum is used in cement industry as a raw material.

Use of these by-products will certainly reduce pollution if used for the mentioned purposes which otherwise end users will require these chemicals which can put extra cost for the manufacture of these by-products and unnecessary extraction from nature for the manufacture of these by-products.

After due deliberation, as the products are clearly mentioned as by-products in Environmental Clearance accorded to the project & also these by-products are not listed in schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, it was decided to consider the below mentioned as by-products and amend the consent accordingly.

1. Chemical Gypsum (CaSO_4)
2. Sulphuric Acid (H_2SO_4 15-25%)
3. Aluminum Chloride (AlCl_3) (5-15%)
4. Hypochlorite (<10%)
5. Copper Sulphate (CuSO_4)



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Agenda Item No.	2
Proposal No.	MPCB-BY_PRODUCT-0000000019
Project Details	M/s Sudarshan Chemical Industries Limited, Plot Nos. 44, 44 Part, 45, 46 & 46 Part, MIDC Dhatav, Tal.Roha, Dist. Raigad-402116.
Environmental Clearance details	No. SEAC-2015/CR-86/TC-2 dtd. 02/02/2017 and amendment in EC vide letter No. SIA/ MH/ IND2/ 51683/ 2013 dtd. 31/03/2020.
Consent details	No. Format 1.0/CAC/UAN No.000094213/CO - 2107000988 dtd. 16/07/2021 which is valid up to 31/07/2025 for manufacturing of Pigments (Organic, Inorganic Metallic/EPD, Pearl, Pigment Preparation, Fluorescent, High performance pigments/HP Dyes & Intermediates) 45473 MT/A & Co-Gen Plant 20 MW

Introduction:

Industry has obtained Environmental Clearance from SEIAA, GOM vide dtd 02.02.2017 & amended vide dtd., 31.03.2020, for manufacturing of;

Products

- 1) Pigments (Organic, Inorganic Metallic/EPD, Pearl, Pigment Preparation, Fluorescent, High performance pigments/HP Dyes & Intermediates) 55392 MT/A.

By Products

- 1) Phosphoric Acid - 14580 MTA or Dicalcium Phosphate – 23328 MTA
- 2) Recovered Pigment – 72 MTA
- 3) Cogen Power- 20 MW
- 4) POCl₃ is not mentioned in EC

Out of these 04 nos. of HW, industry has now applied to consider 03 nos. of by-products mentioned as Hazardous Waste in C to O granted by the Board namely;

- 1) Phosphoric Acid or Dicalcium Phosphate.
- 2) Recovered Pigment.
- 3) POCl₃ is not mentioned in EC but mentioned in CTO as Hazardous Waste.

Industry's submission:

- 1) Industry has applied for three products to be considered as by-products, viz. Phosphoric Acid or Dicalcium Phosphate and Recovered Pigment which are listed in EC accorded to industry, clearly as by-products. While POCl₃ is not listed in EC as By Product. However, POCl₃ is mentioned in CTE & in existing CTO as Hazardous Waste.
- 2) Industry has claimed that POCl₃ being inorganic chemical does not require Environmental clearance.
- 3) Industry has uploaded the source of these by-products i.e. from which product manufacturing the particular by-product is generated. Also, product flow diagrams are uploaded showing point of its generation.



- 4) Industry has uploaded the analysis reports about the purity of by-products which is above 90%.
- 5) Industry has uploaded some of the names of the direct end users for each of the by-product.

Sr. No.	Name of By-Product	Quantity (MT/A)	Generated from Product /source from	Remarks on PFD
1	Phosphoric Acid or Dicalcium Phosphate	10,000	Generated from the manufacturing of High-Performance Pigment e.g. QUINACRIDONE(QA)	Generated from the manufacturing of High-Performance Pigment e.g. QUINACRIDONE (QA) after drowning the reaction mass in water. Hence it is dilute.
2	Recovered Pigment	72	Generated from the manufacturing of All Pigments	Generated from the manufacturing of All Pigments.
3	POCl ₃	120	Generated from the manufacturing of High-Performance Pigment e.g. Isoindolinone Pigment (PY110)	Generated from the manufacturing of High - Performance Pigment e.g. Isoindolinone Pigment (PY110)

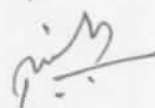
Committee Decision:

Committee noted that the products for which industry has applied to be considered as by-products are mentioned as by products in Environmental Clearance granted to the project vide dtd., 02.02.2017 amended vide dtd 31.03.2020, except for POCl₃.

The said by-products are also not listed in the schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. It's further treatment at CHWTSDf will be unnecessarily increasing the burden on environment due to unwarranted use of neutralizing/treating chemicals when it can be used directly as raw materials and not containing any other pollutants.

All by-products are used directly for the manufacturing of chemical intermediates. Use of these by-products will certainly reduce pollution if used for the mentioned purposes which otherwise end users will require these chemicals which can put extra cost for the manufacture of these by-products and unnecessary extraction from nature for the manufacture of these by-products.

Also, POCl₃ is not mentioned in Environmental Clearance accorded to industry as a product, by-product or Hazardous Waste, however it is mentioned as HW in consent granted by the Board. After due deliberation the committee noted that POCl₃ is an inorganic product and does not require to obtain EC as per EIA 2006, The industry has also submitted the details of end users of POCl₃ along with the analysis report mentioning its purity.



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After due deliberation, as the products are clearly mentioned as by-products in Environmental Clearance accorded to the project & also the products being not listed in schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, it was decided to consider below mentioned products as by-products and amend the consent accordingly.

1. Phosphoric Acid or Dicalcium Phosphate
2. Recovered Pigment
3. POCl_3 is not mentioned in EC but mentioned in CTO as Hazardous Waste.



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Agenda Item No.	3
Proposal No.	MPCB-BY_PRODUCT-0000000013
Project Details	M/s Innovassynth Technologies(India) Limited, Survey No.-9-24, Wasrang 34-36, Chinchwali at Khopoli, Tal.-Khalapur, Dist.-Raigad-410203
Environmental Clearance details	No. F-No. J-11011/20/2017-IA-II (I) dated. 12/04/2018.
Consent details	No. Format 1.0/CAC/UAN No.-0000092277/CO-2011000999 dtd. 17/11/2020 which is valid up to 31/08/2023. Further unit has now recently obtained consent to Operate (part 2) with overriding effect to earlier consent vide No. Format 1.0/UAN No. 0000104447/CO-2106000958, dtd., 21.06.2021

Introduction:

Industry has obtained Environmental Clearance from SEIAA, GOM vide dtd 12.04.2018 for manufacturing of synthetic organic chemicals;

Products

- 1) Synthetic Organic Chemicals- 350 MTPA

By Products

- 1) Hydrochloric Acid 30% - 508 TPM
- 2) Sulphuric Acid 66% - 185 TPM
- 3) Mixed Solvents – 560 TPM
- 4) Aqueous Aluminum Chloride – 1200 TPM

Out of these 04 nos. of HW, industry has now applied to consider 01 no. of product as by-products that is mentioned as Hazardous waste in consent granted by the Board namely;

- 1) Aqueous Aluminum Chloride

Industry's submission:

- 1) Industry has applied for one product mentioned as HW, to be considered as by-products, viz. Aqueous Aluminum Chloride – 1200 TPM which is listed clearly as by-products in EC accorded to industry.
- 2) Industry has uploaded the source of these by-products i.e. from which product manufacturing the particular by-product is generated. Also, product flow diagrams are uploaded showing point of its generation.
- 3) Industry has uploaded the analysis reports about the purity of by-products.
- 4) Industry has uploaded some of the names of the direct end users for the said by-product.

Sr. No.	Name of By-Product	Quantity (MT/A)	Generated from Product /source from	Remarks on PFD
1	Aqueous Aluminium Chloride (solution)	12,382.8	Generated from the manufacturing of Substituted Triazine derivative and Anethole	Generated from the manufacturing of Substituted Triazine derivative and Anethole after drowning the reaction mass in water. Hence it is dilute.

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Committee Decision:

Committee noted that the product for which industry has applied to be considered as by-product is mentioned as by product in Environmental Clearance granted to the project vide dtd., 12.04.2018.

The said by-products are also not listed in the schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Its further treatment at CHWTSDf will be unnecessarily increasing the burden on environment due to unrequired use of neutralizing/treating chemicals when it can be used directly as raw materials and not containing any other pollutants.

Aluminum Chloride ($AlCl_3$) (5-15%) is widely used as a very powerful co-agulating agent in wastewater treatment, where huge quantities of Aqueous Aluminum Chloride (Solution) are required on daily basis. As it is used in very less quantities, in ppm, the increment in COD is negligible and whereas its use will save huge cost as otherwise spent on other co-agulants such as alum, ferrous sulphate etc., Its further treatment at CHWTSDf, for generated waste, will be unnecessary increase the burden on environment due to unrequired use of neutralizing/treating chemicals when it can be used directly as co-agulating agent and not containing any other pollutants.

Use of this by-product will certainly reduce pollution if used for the mentioned purposes which otherwise end users will require these chemicals which can put extra cost for the manufacture of this by-product and unnecessary extraction from nature for the manufacture of this by-product.

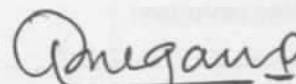
After due deliberation, as the product is clearly mentioned as by-product in Environmental Clearance accorded to the project & also the product being not listed in schedule-I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, it was decided to consider below mentioned product as by-product and amend the consent accordingly.

1. Aqueous Aluminum Chloride

The meeting ended with vote of thanks to Chair.



(P. K. Mirashe)
Asst. Secretary (Tech.) &
Member-Convenor of Committee



(Ashok Shingare, IAS)
Member Secretary
and Chairman of the Committee