EXECUTIVE SUMMARY

FOR

PROPOSED EXPANSION OF MANUFACTURING SECONDARY PLASTICIZERS LIKE CHLORINATED PARAFFIN PLASTICIZER (ORGANIC CHEMICALS) AND BYPRODUCT HYDROCHLORIC ACID

IN THE EXISTING MANUFACTURING UNIT OF

M/S FLOW TECH CHEMICALS (PVT.) LTD. (FORMELY KNOWN AS FLOW WELL PLAST CHEM (P) LTD.)

PACL CAMPUS, NAYA NANGAL, DISTRICT- ROPAR, PUNJAB.

Prepared by

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/1619/SA 057)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: eia@cptl.co.in / cptleia@gmail.com

Website: www.cptl.co.in

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1.0 Project Name and location

M/s Flow Tech Chemicals Pvt. Ltd. (Formerly known as Flow Well PlastChem (P) Ltd.) is proposing to manufacture secondary plasticizers like Chlorinated Paraffin Plasticizer (organic chemicals) and byproduct Hydrochloric Acid at Punjab Alkali and Chemicals Limited Campus, NayaNangal, District Ropar, Punjab.

2.0 Products and capacities

M/s Flow Tech Chemicals has planned to expand the manufacturing capacities of existing products Chlorinated Paraffin and Hydrochloric Acids. The existing capacity of Chlorinated Paraffin is 19,200 TPA and Hydrochloric Acids 38, 400 TPA after expansion total capacity is 38,400 TPA and 76,800 TPA respectively.

The proposed expansion of the manufacturing capacities of existing products by Flow Tech Chemicals (Pvt.) Ltd falls under Category "A" of EIA Notification dated September 14, 2006 and subsequent amendments issued by MoEF & CC and the proposed expansion project is listed at 5(f) Synthetic organic chemicals industry (dyes & dye intermediates; bulk).

Product Name	Existing (TPA)	Additional (TPA)	Total (TPA)
Chlorinated Paraffin	19,200 TPA	19,200 TPA	38,400 TPA
Hydrochloric Acids	38,400 TPA	38,400 TPA	76,800 TPA

3.1 Land Area

The projects have already 12,000m^2 land. No additional land will be required for expansion.

3.2 Raw Material Requirement

Description	Existing Capacity	Proposed Capacity	Total Capacity
HNP/NP/LNP	7396 TPA	7396 TPA	**14,792 TPA**
Liquid Chlorine	25,851 TPA	25,851 TPA	**51,702 TPA**
Epoxy Plasticizer	168 TPA	168 TPA	**336.0 TPA**

3.3 Water Requirement

Water consumption for the unit will be as make up water for cooling and for domestic

purpose. Water requirement will be met through existing tube well. The detail of water requirement is given below:-

DESCRIPTION	EXISTING	PROPOSED	TOTAL
Domestic	3.0 KLD	4.0KLD	7.0KLD
Cooling (makeup water)	2.0 KLD	1.0 KLD	3.0 KLD
Process	85.0 KLD	85.0 KLD	170 KLD
Total	90.0 KLD	90.0 KLD	180.0 KLD

3.4 Power Requirement

The Power Requirement will be met by sourcing the power from Punjab State Power Corporation limited from nearby Sub-station. The detail of power requirement existing & after expansion is given below:-

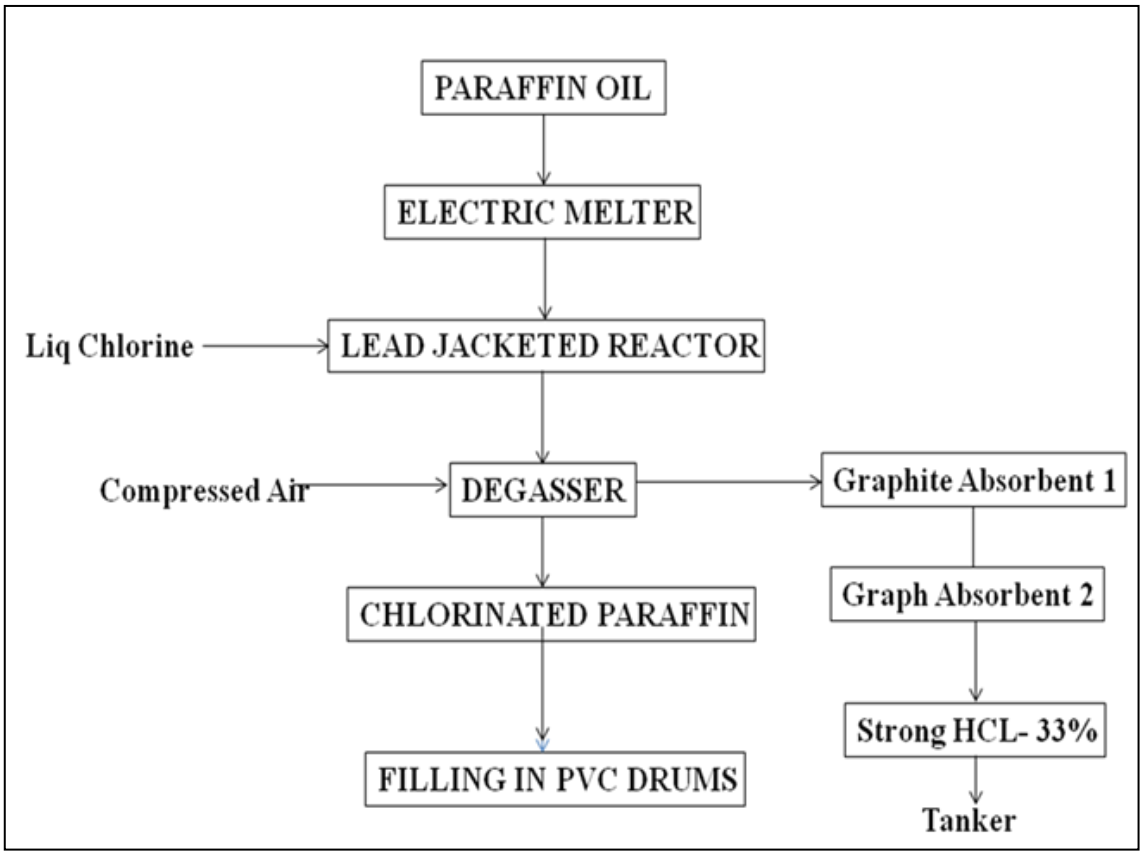
DESCRIPTION	EXISTING	PROPOSED	TOTAL
Power Requirement	200 KW	150KW	350KW
Source	Punjab State Power Corporation Limited, Punjab		

3.5 Manpower Requirement

Direct Employment: -for expansion additional 80 Persons will be required. Total number of manpower after expansion will be 160 No’s.

4.0 Process Description

PROCESS FLOW CHART



5.0 Cost Details

Capital cost of the project is Rs. 7.60 crore and total cost for EMP is Rs. 54 Lakh.

6.0 Site Details

M/s Flow Tech Chemicals Pvt. Ltd. (Formerly known as Flow Well PlastChem (P) Ltd.) is situated at Punjab Alkali and Chemicals Limited Campus, NayaNangal, District Ropar, Punjab having its global coordinates as Latitude 31°22'16"N & Longitude 76°20'44"E. Nangal is the nearest city which is at 2 km from the site and also the nearest railway station which is 4 km from the site. Nearest airport is Chandigarh which is at 80 km from site. Palsed PF, Thapal PF, Ramgarh Parla PF, Ramgarh Awarla PF are the Reserved/Protected Forests exists within the study area. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves exist within 5 km radius of project site.

7.0 Baseline Environmental Data and their impacts

Various Environmental factors as existing in the study area which are liable to be affected by the activities have been assessed both quantitatively and qualitatively. Baseline environmental data generation of study area was carried out during the period October to December, 2018.

7.1 Ambient Air Quality

The $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO levels were monitored at eight locations in the study area for three months (October to December, 2018). The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 44.93µg/m^3, PM_{10} is 79.96µg/m^3, SO_2 is 9.55µg/m^3, NO_2 is 21.98µg/m^3 and CO is 0.66 mg/ m^3. The baseline air quality level is within the National Ambient Air Quality Standards prescribed for Industrial, Residential & Rural Areas **(Standards are 60, 100, 80 and 80µg/m^3 for $PM_{2.5}$, PM_{10}, SO_2 and NO_2 respectively).** Due to better pollution abatement facilities, proposed expansion will have insignificant impact on existing air quality.

7.2 Water Quality:

Eight groundwater samples and one surface water sample were collected from the study area for chemical and biological analysis. The groundwater quality of the study is satisfactory. No metallic or bacterial contamination was found in the water quality. But bacterial contamination is found in surface water. Since, no waste water will be discharged on land, water quality is not likely to be impacted.

7.3 Noise Environment

Ambient noise levels were monitored at 8 locations in the study area. Noise levels in the study vary from 47.5 dB (A) to 72.6 dB (A) in day time and 36.6 dB (A) to 62.5 dB (A) during night. The highest levels were observed at Project Site. Proposed expansion will

have negligible impact than existing one due to better pollution control facility.

7.4 Soil Quality

Eight soil samples were collected from the study area and analyzed. The texture of soil is sandy loam. The organic matter, nitrogen, potassium and phosphorus content of the soil are moderate. The pH of all the soil samples is within the acceptable range. No impact on soil will be there due to proposed plant as no waste water will be discharged on land.

7.5 Ecological environment

Ecological data has been collected through secondary sources and by site visits. The tree species kikar, Jamun, Peepal and Mango etc are the dominant plant species of the study area. Mongoose, porcupine, jungle cat, cobra, krait, snakes, hare, pigeon and variety of birds are the common animals of the study area. No endangered species of plants and animals are found in the study area, so no impact on ecological environment.

7.6 Sensitive Ecosystem:

Within the study area, no plant or animal species were found to be on the endangered list. No ecologically sensitive area like biosphere reserve, tiger reserve, and migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present in the study area. Agriculture and industrial workers dominate the occupation structure of the study area.

7.7 Socioeconomic Condition:

Socioeconomic status has been studied through secondary sources and by site visits. The social requirements identified such as drinking water requirement, Promotion of educational institutions and medical facilities to the villagers (especially Senior Citizens and infants or pregnant ladies). Community centers, recreation facilities etc will also be developed as part of social responsibility.

8.0 Possible Hazards & Risks from Chemicals manufacturing unit

The risk is through liquid/gaseous materials which are volatile material. The toxic vapours due to spillage of such material can ravel to some distance and cause damage. Subsequently, each incident is classified according to relative risk classifications provided in **Table.**

Table: Possible Risk

Stage	Description
High (>10^{-2}/yr)	A failure which could be expected to occur within the expected life time of the plant. Examples of high failure likelihood are process leaks or single instrument or valve failure or a human error which could results in release of hazardous materials.
Moderate (10-^{2}-10-^{4}/yr)	A failure or sequence of failures which has a low probability of occurrence within the expected lifetime of the plant. Examples of moderate likelihood are dual instrument or valve failures, combination of instrument failures and human errors or single failures of small process lines or fittings.
Low (<10^{-4}yr)	A failure or series of failure which have a very low probability of occurrence within the expected lifetime of plant. Examples of 'low' likelihood ae multiple instruments or valve failure or multiple human errors, or single spontaneous failures of tanks or process vessels.
Minor Incidents	Impact limited to the local area of the event with potent for 'knock-on-events'
Serious Incidents	One that could cause: • Any serious injury or fatality on/off site. • Property damage
Extensive Incident	One that is five or more times worse than a serious incident.

9.0 Emergency Plan

Emergency planning is primary for the protection of plant personnel and people in nearby areas and the environment that could be affected by unplanned hazardous events. The emergency may arise from the leakage, explosion caused by over pressure in equipment, chemical storage and handling, fire due to combustible material and social disorder.

10.0 CER Activities (Corporate Environmental Responsibility)

Being a brown field project, company has earmarked Rs. 15.0 lakh towards the Corporate Environmental Responsibility (CER). CER activities as defined in CER circular issued by MoEF & CC and the public hearing issues will be detailed in final EIA report.

11.0 Environment Monitoring Plan

Regular monitoring of all significant environmental parameters is essential to check the compliance status vis-à-vis the environmental laws and regulation. The frequency of the monitoring will be as follows:

- The ambient Air quality shall be monitored at project site and two upward and downstream locations once every quarter for $PM_{2.5}$, PM_{10}, NO_x & SO_2, and CO levels during the Construction Phase and Operational Phase.

- The Ambient Noise Levels, Water Quality, Effluent etc. shall be monitored once every six months or as per EC conditions.

12.0 Environment Management Cell (EMC)

A duly constituted EMC comprises the following:

1. Project Promoter
2. Process Incharge
3. Environment Consultant