

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.290 OF 2017

IN THE MATTER OF :

COURT ON ITS OWN MOTION

APPLICANT

VERSUS

NCT DELHI & ORS.

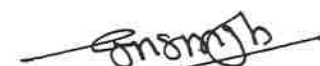
RESPONDENT(S)

INDEX

S. NO.	PARTICULARS	PAGE NO.
1.	JOINT INSPECTION REPORT OF MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, CENTRAL POLLUTION CONTROL BOARD, HARYANA POLLUTION CONTROL BOARD AND DIRECTORATE OF INDUSTRIAL SAFETY & HEALTH, HARYANA IN COMPLIANCE OF HON'BLE NATIONAL GREEN TRIBUNAL ORDER, DATED 15.05.2017	41-44 393-406
2.	Annexure-1: National Center for Biotechnology Information, U.S. National Library of Medicine categorization of chemical substance (2-Chloro-5-(chloromethyl) pyridine) regarding its harmful and toxic properties.	407-409
3.	Annexure-2: The European Chemicals Agency (ECHA) specification under Environmental hazards category that the chemical 2-Chloro-5-(chloromethyl) pyridine is Toxic to aquatic life with long lasting effects.	410-413
4.	Annexure-3: Copy of factory license to M/s Crystal Crop Protection Pvt. Ltd., Sonapat, Haryana (the Unit)	414
5.	Annexure-4: Process flow chart of the unit with list of chemicals	415-417
6.	Annexure-5: Copy of the Material Safety Data Sheet of 2-Chloro-5-(chloromethyl) pyridine.	418-424

National Green Tribunal, New Delhi
 Diary No..... 3795/17
 Dated..... 12.7.17
 Sign. of Receiving Officer.....

7.	Annexure-6: Copy of Environmental Clearance issued by Ministry of Environment and Forests to the unit on May 23, 2012.	425-431
8.	Annexure-7: List of products manufactured by the unit.	432
9.	Annexure-8: List of chemicals used by the unit as raw material	433-434
10.	Annexure-9: Stock list of other chemicals used by the unit.	435
11.	Annexure-10: Copy of on-site emergency plan.	436-452
12.	Annexure-11: Copy of off-site emergency plan.	453-466
13.	Annexure-12: Copy of policy taken under Public Liability Insurance Act, Valid from 13.02.2017 to 12.02.2018.	467
14.	Annexure-13: Copies of the Consent to Operate and Authorization issued by the HSPCB.	468-472
15.	Annexure-14: Copy of the Show Cause Notice dated 25/05/2017 issued by the HSPCB to the unit.	473-474
16.	Annexure-15: Copy of the Show Cause Notice vide dated 25/05/2017 issued by the Industrial Safety & Health (IS&H), Labour Department, Haryana Government to the unit.	475
17.	Annexure-16: Copy of the Effluent sample Analysis report	476-479



(Gurnam Singh)
Scientist 'E'

Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi - 110032

Place : Delhi

Dated : 12th June, 2017

BEFORE THE NATIONAL GREEN TRIBUNAL,

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.290 OF 2017

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RESPONDENT(S)

**JOINT INSPECTION REPORT OF
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE,
CENTRAL POLLUTION CONTROL BOARD,
HARYANA POLLUTION CONTROL BOARD
AND DIRECTORATE OF INDUSTRIAL SAFETY & HEALTH,
HARYANA IN COMPLIANCE OF
HON'BLE NATIONAL GREEN TRIBUNAL
ORDER, DATED 15.05.2017**



**CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forests & Climate Change)
Parivesh Bhawan, East Arjun Nagar
Delhi – 110032**

Report on Joint Inspection carried out by Ministry of Environment, Forest & Climate Change, Central Pollution Control Board, Haryana Pollution Control Board and Directorate of Industrial Safety & Health, Haryana in compliance with the order dated May 15, 2017 passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi, in the matter of Hon'ble Court on its own Motion Vs. NCT, Delhi & Ors. (Suo Moto Application No. 290 of 2017).

The Hon'ble National Green Tribunal vide order dated May 15, 2017 had directed Central Pollution Control Board and Ministry of Environment, Forest & Climate Change to file specific suggestions and to state whether the substance in question is covered under the definition of Environmental laws as well as under Manufacturing, Storage and Import of Hazardous Chemical Rules, 1989 (hereinafter referred to as MSIHC, Rules, 1989).

Regarding this it is stated that Section 2 (a) of The Environment (Protection) Act, 1986 defines that "environment" includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property; and

Section 2 (b) of The Environment (Protection) Act, 1986 defines that "environmental pollutant" means any solid, liquid or gaseous substance present in such concentration as may be, or tend to be, injurious to environment;

Literature review for the substance in question that is 2-Chloro-5-(chloromethyl) pyridine was done. National Center for Biotechnology Information, U.S. National Library of Medicine has categorized this chemical substance as Harmful if swallowed Acute toxicity, oral - Category 4 and Causes severe skin burns and eye damage. (Copy enclosed as **Annexure-1**)

The European Chemicals Agency (ECHA) has specified under Environmental hazards category that the chemical 2-Chloro-5-(chloromethyl) pyridine is Toxic to aquatic life with long lasting effects. (Copy enclosed as **Annexure-2**)



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It is submitted that the leakage of the said chemical has led to the hospitalization of more than 100 people on May 06, 2017. Keeping in view of the above facts and definitions of "Environment" and "Environmental Pollutant" as specified in The Environment (Protection) Act, 1986 it is respectfully submitted that the chemical 2-Chloro-5-(chloromethyl)pyridine has the potential to cause environmental pollution and hence it is covered under the definition of Environmental laws. However, the said chemical 2-Chloro-5-(chloromethyl) pyridine is not listed under MSIHC, Rules, 1989.

In compliance with the aforesaid order of the Hon'ble National Green Tribunal, inspection of M/s Crystal Crop Protection Private Limited, Sonipat, Haryana was jointly carried out by a team of officials from Central Pollution Control Board (Sh. Ashbir Singh, Scientist-C, Sh. G. Rambabu, Scientist-C, Sh. Dev Prakash, Scientist-B, Sh. B. L. Meena, Senior Laboratory Assistant), Haryana State Pollution Control Board (Sh. Naveen Gulia, Environmental Engineer, Sh. Sachin Narwal, Assistant Environmental Engineer) and Directorate of Industrial Safety & Health, Haryana (Sh. Surender Singh, Deputy Director, IS&H, Panipat, Sh. N S Maan, Assistant Director, IS&H, Chemical, Panipat and Sh. Vakeel Punia, Assistant Director, IS&H, Sonipat) on May 23, 2017. Subsequently, Dr. Vimal Kumar Hatwal, Scientist-D from Ministry of Environment, Forest & Climate Change, inspected the said unit on May 24, 2017.

During joint inspection, the team made the following observations:

1. The unit has manufacturing Pesticides by processing/formulation of approximately 60 various kinds of basic aromatic/ aliphatic chemicals including 2-Chloro-5-(chloromethyl) pyridine (60 %). The main process carried out in the factory includes distillation, crystallization, blending, stirring, vaporization, heating, mixing, etc. by using the reactors, stirrers, distillation columns, chillers, cooling towers pumps, etc. The unit is situated in an area of 18005 m².



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The unit has duly obtained factory license from Chief Inspector of Factories, Haryana under the provisions of the Factories Act, 1948 and Rules framed thereunder. The validity of current factory license bearing Registration number SPT/C-29/1760 and serial number 1011 issued on December 28, 2015 is up to December 31, 2020, copy of factory license enclosed as **(Annexure-3)**. The electricity of 940 Horse Power is being used and 430 workers are engaged on various activities. The manufacturing process is carried out in three shifts. The list of chemicals used with maximum storage capacity and process flow chart is enclosed herewith **(Annexure-4)**.

As per Rule 70 C of the Punjab Factory Rules, 1952 the occupier of the factory carrying out hazardous process shall arrange to obtain or develop information in the form of Material Safety Data Sheet (MSDS) in respect of every hazardous substance or material handled in the manufacturing, transportation and storage in the factory. Every such MSDS shall contain the information with regard to hazardous ingredient of the material, its physical and chemical data, fire and explosion hazard, reactivity data, toxicological properties, preventive and first aid measures etc. As a sample, the MSDS of the chemical in question i.e. 2-Chloro-5-(chloromethyl) pyridine (60 %) is enclosed herewith **(Annexure-5)** as collected from the factory.

The perusal of the MSDS indicates that this chemical is hazardous, causes skin corrosion/irritation and damages/ irritation to eyes, if exposed. As a part of precautionary measures avoid breathing gas fume / mist/ vapors/ spray. If exposed, face, eyes, hands and exposed skin should be washed thoroughly. During handling workers should wear protective gloves/ protective clothing/ eye & face protection.

2. In case of accidental exposure apart from immediate medical attention Emergency shower, Eyewash solutions and on spot first aid measures were missing within the premises:



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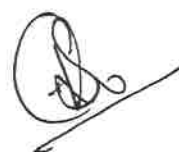
3. The Ministry of Environment and Forests accorded Environmental Clearance to the unit on May 23, 2012 (Copy enclosed as **Annexure-6**). The installed production capacity of the unit is 21 Metric Ton per day (MTD).
4. The product list provided by the unit is enclosed as **Annexure-7**.
5. The list of chemicals being used by the unit as raw material is enclosed as **Annexure-8**. From the said list, it was observed that the unit uses 1250 kg of chemical 2-Chloro-5-(chloromethyl) pyridine per day as raw material. The said chemical is used to manufacture Imidacloprid as an insecticide. The said chemical 2-Chloro-5-(chloromethyl) pyridine was leaked at ICD Tughlakabad; Delhi on May 06, 2017 from the container imported by the unit.
6. The unit informed that it had imported 160 packages having gross weight of 37600 kgs of the said chemical from China.
7. It was observed that the unit has a stock of about 40050 kgs of 2-Chloro-5-(chloromethyl) pyridine as per records available with the unit.
8. It was observed that the unit also having a stock of other chemicals such as Acetic acid (630 kg), sodium hydroxide (caustic soda) (4700 kg), Hydrochloric acid (3558 kg), Methanol (Methyl alcohol) (5019 kg) and Potassium hydroxide (3000 kg) that are covered under MSIHC Rules 1989. The stock list of other chemicals provided by the unit is enclosed as **Annexure-9**.
9. The unit informed that in the morning of May 06, 2017, they received a container on trailer number HR38T-8972 vide container number XNU-15043/20. On receipt of the said container the liquid dripping was reported and it was also observed that fumes were coming out from the same. The said container was taken inside the unit and was opened after taking all precautions and the same has



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done under supervision of emergency control team. The container's door was opened and from a safe distance, water was sprayed through hydrant hose, for washing the container from inside. Also the liquid coming out was neutralized with caustic solution and potassium carbonate solution which was available in plant as a neutralized medium for this chemical. After 2 hour of water washing the fumes subsided. The said container was containing total 80 barrels. The said barrels were unloaded and observed that total 5 barrels were damaged and liquid spilled out from these barrels. The barrels were emptied out, washed and handed over to police.

10. The unit informed that each barrel was carrying 225 kgs of 2-Chloro-5-(chloro methyl) pyridine and because of leakage from 5 barrels, about 200 kgs of the said chemical was lost.
11. The unit provided copies of on-site emergency plan effective from 27.01.2017 enclosed as **Annexure-10**.
12. The unit provided copies of off-site emergency plan (enclosed as **Annexure-11**).
13. The unit also provided copy of policy taken under Public Liability Insurance Act, Valid from 13.02.2017 to 12.02.2018 (enclosed as **Annexure-12**).
14. The unit uses 12 cubic metre per day (m^3/day) of fresh water through a bore well. In this regard, the unit has obtained NOC from Central Ground Water Board (CGWB) on May 18, 2009 and the same was expired after 02 years. Since then, the unit has not obtained valid NOC from CGWB. The extracted fresh water from bore well is treated through Reverse Osmosis (RO) before using in production process.
15. The unit generates about 12 m^3/day of effluent which is treated in a primary chemical dosing treatment plant followed by Multi Effect Evaporator (MEE) of capacity 15 KLD. The MEE condensate is being




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used in process and surplus condensate is further treated through RO and the permeate of the said RO is blended with reject of bore well RO and the same is sent to cooling tower and also for irrigation.

16. The MEE rejects are sent to captive incinerator. The stack of incinerator is connected to ventury scrubber as air pollution control system. The process vent of the unit is connected to a three stage scrubber as air pollution control system. The hazardous waste including sludge are being sent to Treatment, Storage and Disposal Facility (TSDF) of Gujarat Enviro Protection & Infrastructure (Haryana) Pvt. Ltd. located site at Pali, Faridabad, Haryana.
17. The unit has obtained Consent to Operate (CTO) under Water Act, 1974/ Air Act, 1981 from Haryana State Pollution Control Board vide No. HSPCB/Consent/: 313100917SONCTO3564280 dated 24.3.2017 and Authorization under HWM Rules, 2016 vide No. HSPCB/Consent/: 313100917SONCTOHWM3564280 dated 24.3.2017 for the period from 1.4.2017 to 30.9.2019 (copy of the same is enclosed as **Annexure-13**).

Sampling Details:

During inspection, effluent and sludge samples were collected for the analytical estimation of 2-Chloro-5-(chloromethyl) pyridine and other parameters by Central Pollution Control Board. Sample of the 2-Chloro-5-(chloromethyl) pyridine was also collected by the joint team for analysis. Analysis results of the same are awaited. Concerned laboratory of Central Pollution Control Board has informed that since 2-Chloro-5-(chloromethyl) pyridine is not a routine pollutant and since there are no analytical standards available presently and the reference standards have to be procured through import. Then instrument standardization and methodology will take further time. Because of these reasons, the concerned Laboratory of CPCB has requested to seek further time of at least six weeks for providing analysis report.



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During inspection, effluent samples were also collected for the compliance verification of other parameters by Central Pollution Control Board. Sample analysis results are enclosed as **Annexure -16**.


Effluent Sample analysis results for other parameters are as follows:

Parameters	ETP Inlet (in mg/l except pH) (Sample Code: C1)	MEE Condensate (in mg/l except pH) (Sample Code: C2)	Finally Discharged Treated effluent (in mg/l except pH) (Sample Code: C3)	Prescribed Standards as per Notification No. GSR 446 (E) dated 13.06.2011
pH	7.11	10.70	8.40	6.5 - 8.5
TSS	2491	04	07	100
COD	59765	16784	28	Not Prescribed
TDS	72944	100	1708	Not Prescribed
Nitrate	BDL	BDL	BDL	50

The analysis results indicate that the Finally Discharged Treated effluent is not exceeding the prescribed standards. However during inspection it was observed that unit dilutes treated effluent with reject of bore well R.O Plant before its discharge and it is being used in irrigation also. Hence, the unit was observed violating Specific Condition No. A (vii) of the Environmental Clearance accorded by Ministry of Environment and Forests; which specifies that the unit shall adopt Zero Liquid Discharge.

Following non-compliance and violations made by the unit were observed during inspection:

- i.) It was observed that 178 barrels of 2-Chloro-5-(chloromethyl) pyridine each containing 225 kgs of the said chemical were stored by the unit. Out of which 05 barrels were kept in open and 65 barrels are found stored in under a cloth tent. The barrels were not kept on impervious surface. They were kept over interlocked tiles having possibility to let through any spillage. In case of any



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spillage, the hazardous chemicals contained in those barrels may contaminate the soil and groundwater.

- ii.) The unit was also found to store 24 barrels of other hazardous chemicals in open area without shed. The barrels were not kept on impervious surface and they were also kept over interlocked tiles having possibility to let through any spillage. In case of any spillage, the hazardous chemicals contained in those barrels may contaminate the soil and groundwater.
- iii.) The barrels containing hazardous chemicals were not properly labeled regarding physical, chemical and toxicological data. Hence, violation of Section 17 (4) of the said MSIHC, Rules, 1989 was observed.
- iv.) It was observed that the unit is utilizing the empty drums / barrels contaminated with hazardous chemicals in their process after washing but has not obtained its authorization from Haryana Pollution Control Board for utilisation of Hazardous Wastes as specified under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- v.) As per Rule 15 of the said MSIHC, Rules, 1989, The occupier shall take appropriate steps to inform persons outside the site either directly or through District Emergency Authority who are likely to be in an area which may be affected by a major accident about the nature of the major accident hazard; and the safety measures and the "Do's" and "Don'ts" which should be adopted in the event of a major accident. The unit during inspection could not produce any documentary evidence that it follows the practice of informing any concerned authority about any such possible accidental hazards. Therefore, it was observed that the unit failed to comply to the above stated rules.
- vi.) The unit informed that since 2016, it is not informing to any authority specified under the said rules regarding import of



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hazardous chemicals. As per section 18 of the said MSIHC, Rules, 1989, the importer has to inform the prescribed information to Central Pollution Control Board or State Pollution Control Board at least 30 days before the import of Hazardous Chemicals. Therefore, it was observed that the unit failed to comply to the above stated rules.

- vii.) The process of drying of pesticide that is Imidacloprid was being carried out using tray dryer in a room that was open from the two sides. The whole area including equipment of that room and the adjoining areas were covered with powdered pesticide dust. In the event of storm or weather having high wind velocity, the powdered pesticide may spread to the nearby ambient environment. Also it was observed that the manufactured pesticides are kept in open barrels covered with cloth near the barrel transportation lift area. Thus the unit violated the specific condition no. (viii) as stipulated in Environmental Clearance accorded by Ministry of Environment and Forests.
- viii.) The unit was found diluting treated effluent with reject of bore well R.O Plant. The unit informed that treated effluent is blended with RO reject of bore well and it is being used in irrigation also. Hence, the unit was observed violating Specific Condition No. A (vii) of the Environmental Clearance accorded by Ministry of Environment and Forests; which specifies that the unit shall adopt Zero Liquid Discharge.
- ix.) The unit has not installed continuous monitoring system for VOCs (Volatile Organic Compounds) at required places/areas as per by Ministry of Environment and Forests clearance condition.
- x.) The unit was found to store hazardous chemicals and solvent in non-designated and open area. Further, as mentioned above it has not installed continuous monitoring system for VOCs at required places/areas as per by Ministry of Environment and Forests clearance condition. The unit has no measures to detect an


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- increase in VOCs that are generally highly flammable in the solvent storage area and since, the hazardous chemicals were also observed to be stored near the solvents. Any accidental fire may lead to emission and spread of hazardous fumes to the nearby factories and residential colonies as well as the ambient environment.
- xi.) It was observed that the green belt was not developed as stipulated in Specific Condition no. (xxvi) of Environmental Clearance accorded by Ministry of Environment and Forests.
- xii.) At the time of inspection total 178 barrels each weighing 225 kgs total 40050 kgs of 2-Chloro-5-(chloromethyl) pyridine (60 %) found stored in the factory for using in the manufacturing process. Out of which five barrels were kept in open and exposed to direct sun light, 65 barrels are found stored in make shift arrangement under the tent in contravention of Punjab Factory Rules, 1952, 66 -D and rest are stored in covered shed.
- xiii.) The five barrels containing the chemical 2-Chloro-5-(chloromethyl) pyridine (60 %) were placed along with barrels of other chemicals without any substantial isolation so as to prevent mixing in case of spillage or accidental leakage, which is contravention of Punjab Factory Rules, 1952, 102/Schedule XI/ Part II/ 9(3).
- xiv.) The drenching showers & eye washers are required as first aid measure in case of exposure of workers to mist/ fumes/ vapours/ liquid of hazardous chemicals due to spillage or accidental leakage. These are not provided as per scale prescribed under Punjab Factory Rules, 1952, 102/ Schedule / XI/ Part VI/ (1).
- xv.) Some of the personal protective equipment (gas masks) were not found stored in clean, sterile and hygiene condition, which is contravention of Punjab Factory Rules, 1952, 102/ Schedule XI/ Part II/ 11.

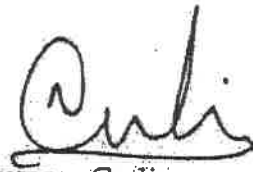



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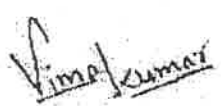
It is humbly submitted that the Haryana Pollution Control Board has issued Show Cause Notice No. HSPCB/SR/2017/1668 dated 26/05/2017 to the unit for observed violations under section 33A of the Water Act, 1974, under section 31 of Air Act, 1981 & under Section 5 of The Environment (Protection) Act, 1986(Copy of the same is enclosed as **Annexure-14**). Also the occupier is liable to make compliance of all the safety and health provisions prescribed under the Factories Act, 1948 and the Punjab Factories Rules, 1952. In this regard, Industrial Safety & Health (IS&H), Labour Department, Haryana Government, has also issued Show Cause Notice vide dated 25/05/2017 (Copy of the same is enclosed as **Annexure-15**) for the above contraventions of the said rules by Chief Inspector of Factories. In case the reply of the management is not found satisfactory, the action shall be initiated in the competent court of law. It is further humbly submitted that the provisions of the Factories Act, 1948 and rules framed thereunder are applicable only within the premises including precincts of factory.


 Ashbir Singh
 Scientist-C, CPCB


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 Vakeel Punia
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 IS&H, Haryana


 Dr. Vimal Kumar Hatwal
 Scientist-D, MoEF&CC

5/12/2017

2-Chloro-5-chloromethylpyridine | C₆H₅Cl₂N - PubChem

NIH U.S. National Library of Medicine National Center for Biotechnology Information

PubChem | OPEN
CHEMISTRY
DATABASE

Search Compounds

LCSS Laboratory Chemical
Safety Summary for CID 155479

2-Chloro-5-chloromethylpyridine

[Cite this Record](#)

PubChem CID: 155479

Chemical Names: 2-Chloro-5-chloromethylpyridine; 2-Chloro-5-(chloromethyl)pyridine; 70258-18-3; Pyridine, 2-chloro-5-(chloromethyl)-; 2-Chloro-5-chloromethylpyridine; SKCNYHLTRZINA-UHFFFAOYSA-N

Molecular Formula: C₆H₅Cl₂N

Molecular Weight: 162.013 g/mol

[PUBCHEM](#) > [COMPOUND](#) > [2-CHLORO-5-CHLOROMETHYLPYRIDINE](#) > [LCSS](#)

408

5/12/2017

2-Chloro-5-chloromethylpyridine | C6H5Cl2N - PubChem

Contents

1 GHS Classification

2 Identifiers

2.1 CAS

2.2 InChI

2.3 InChI Key

3 Information Sources

1 GHS Classification



Signal: Danger

GHS Hazard Statements

Aggregated GHS information from 6 notifications provided by 30 companies to the ECHA C&L Inventory. Each notification may be associated with multiple companies.

H302 (90%): Harmful if swallowed [Warning Acute toxicity, oral - Category 4]

H314 (100%): Causes severe skin burns and eye damage [Danger Skin corrosion/irritation - Category 1A, B, C]

Information may vary between notifications depending on impurities, additives, and other factors. The percentage value in parenthesis indicates the notified classification ratio from all companies. Only Hazard Codes with percentage values above 10% are shown.

Precautionary Statement Codes

P260, P264, P270, P280, P301+P312, P301+P330+P331, P303+P361+P353, P304+P340, P305+P351+P338, P310, P321, P330, P363, P405, and P501

(The corresponding statement to each P-code can be found here.)

▶ from European Chemicals Agency - ECHA

2-Chloro-5-chloromethylpyridine

EC number: 454-800-3 | CAS number: -



Classification & Labelling & PBT assessment

GHS**General Information**

Name: 2-Chloro-5-chloromethylpyridine
 Implementation: EU

Related composition

Related composition: Composition 1.

Classification**Physical hazards****Explosives**

Reason for no classification: conclusive but not sufficient for classification

Flammable gases and chemically unstable gases

Reason for no classification: conclusive but not sufficient for classification

Aerosols

Reason for no classification: conclusive but not sufficient for classification

Oxidising gases

Reason for no classification: conclusive but not sufficient for classification

Gases under pressure

Reason for no classification: conclusive but not sufficient for classification

Flammable liquids

Reason for no classification: conclusive but not sufficient for classification

Flammable solids

Reason for no classification: conclusive but not sufficient for classification

Self-reactive substances and mixtures

Reason for no classification: conclusive but not sufficient for classification

Pyrophoric liquids

Reason for no classification: conclusive but not sufficient for classification

Reason for no classification: conclusive but not sufficient for classification

Self-heating substances and mixtures

Reason for no classification: conclusive but not sufficient for classification

Substances and mixtures which in contact with water emit flammable gases

Reason for no classification: conclusive but not sufficient for classification

Oxidising liquids

Reason for no classification: conclusive but not sufficient for classification

Oxidising solids

Reason for no classification: conclusive but not sufficient for classification

Organic peroxides

Reason for no classification: conclusive but not sufficient for classification

Corrosive to metals

Reason for no classification: conclusive but not sufficient for classification

Desensitized explosives

Reason for no classification: data lacking

Health hazards

Acute toxicity - oral

Hazard category: Acute Tox. 3

Hazard statement: H301: Toxic if swallowed.

Acute toxicity - dermal

Hazard category: Acute Tox. 3

Hazard statement: H311: Toxic in contact with skin.

Acute toxicity - inhalation

Reason for no classification: data lacking

Skin corrosion / irritation

Hazard category: Skin Corr. 1C

Hazard statement: H314: Causes severe skin burns and eye damage.

Serious eye damage / eye irritation

Reason for no classification: conclusive but not sufficient for classification

Respiratory sensitisation

Reason for no classification: conclusive but not sufficient for classification

Skin sensitisation

Hazard category: Skin Sens. 1

412

Hazard statement:	H317: May cause an allergic skin reaction.
Respiration hazard	
Reason for no classification:	conclusive but not sufficient for classification
Reproductive toxicity	
Reason for no classification:	data lacking
Effects on or via lactation	
Reason for no classification:	data lacking
Germ cell mutagenicity	
Reason for no classification:	data lacking
Carcinogenicity	
Reason for no classification:	data lacking
1. Specific target organ toxicity - single	
Reason for no classification:	data lacking
1. Specific target organ toxicity - repeated	
Hazard category:	STOT Rep. Exp. 2
Hazard statement:	H373: May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
Affected organs:	forestomach and liver
Route of exposure:	Oral and Dermal

Environmental hazards	
Hazardous to the aquatic environment (acute / short-term)	
Reason for no classification:	conclusive but not sufficient for classification
Hazardous to the aquatic environment (long-term)	
Hazard category:	Aquatic Chronic 2
Hazard statement:	H411: Toxic to aquatic life with long lasting effects.
Hazardous to the ozone layer	
Reason for no classification:	data lacking

Labelling

Signal word: Danger

Hazard pictogram

- GHS09: environment
- GHS08: health hazard
- GHS06: skull and crossbones

Hazard statements

H411: Toxic to aquatic life with long lasting effects.

H373: May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H317: May cause an allergic skin reaction.

H314: Causes severe skin burns and eye damage.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

Precautionary statements

P501: Dispose of contents/container to ... in accordance with local/regional/national /international regulations (to be specified). Manufacturer/supplier or the competent authority to specify whether disposal requirements apply to contents, container or both.

P310: Immediately call a POISON CENTER/doctor/...

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P353: Rinse skin with water [or shower].

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Notes

Information on Registered Substances comes from registration dossiers which have been assigned a registration number. The assignment of a registration number does however not guarantee that the information in the dossier is correct or that the dossier is compliant with Regulation (EC) No 1907/2006 (the REACH Regulation). This information has not been reviewed or verified by the Agency or any other authority. The content is subject to change without prior notice. Reproduction or further distribution of this information may be subject to copyright protection. Use of the information without obtaining the permission from the owner(s) of the respective information might violate the rights of the owner.



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Close

CHIEF INSPECTOR OF
FACTORIES, HARYANA

सत्यमेव जयते

DESCRIPTION OF THE
LICENCED PREMISESThe licenced premises shown on
Building Plan approved vide No.

RTK/FBP/C-46/504

Dated- 23-01-2003

are situated at the address given
above and consist of building
as per approved drawings.DIRECTORATE OF
INDUSTRIAL SAFETY
& HEALTHLABOUR DEPARTMENT
HARYANA, CHANDIGARHANNEXURE
3
44
Issued On: 28-12-2015

Form No. 4 (PRESCRIBED UNDER RULE 8)

RENEWAL OF
FACTORY LICENCEउत्पादकता एवं सामाजिक न्याय
PRODUCTIVITY WITH SOCIAL JUSTICELABOUR DEPARTMENT HARYANA
श्रम विभाग हरियाणाशान्ति, सामंजस्य एवं सुरक्षा
PEACE, HARMONY AND SAFETY

Licence is hereby granted to

Occupier Details

Sh./Smt. Arvind Kumar Tyagi

Factory Details

M/s Crystal Crop Protection Pvt Ltd

Vill. & P.O. Nathupur, Distt. Sonapat-131001

Sonapat, Sonapat

Licence Registration No. SPT/C-29/1760

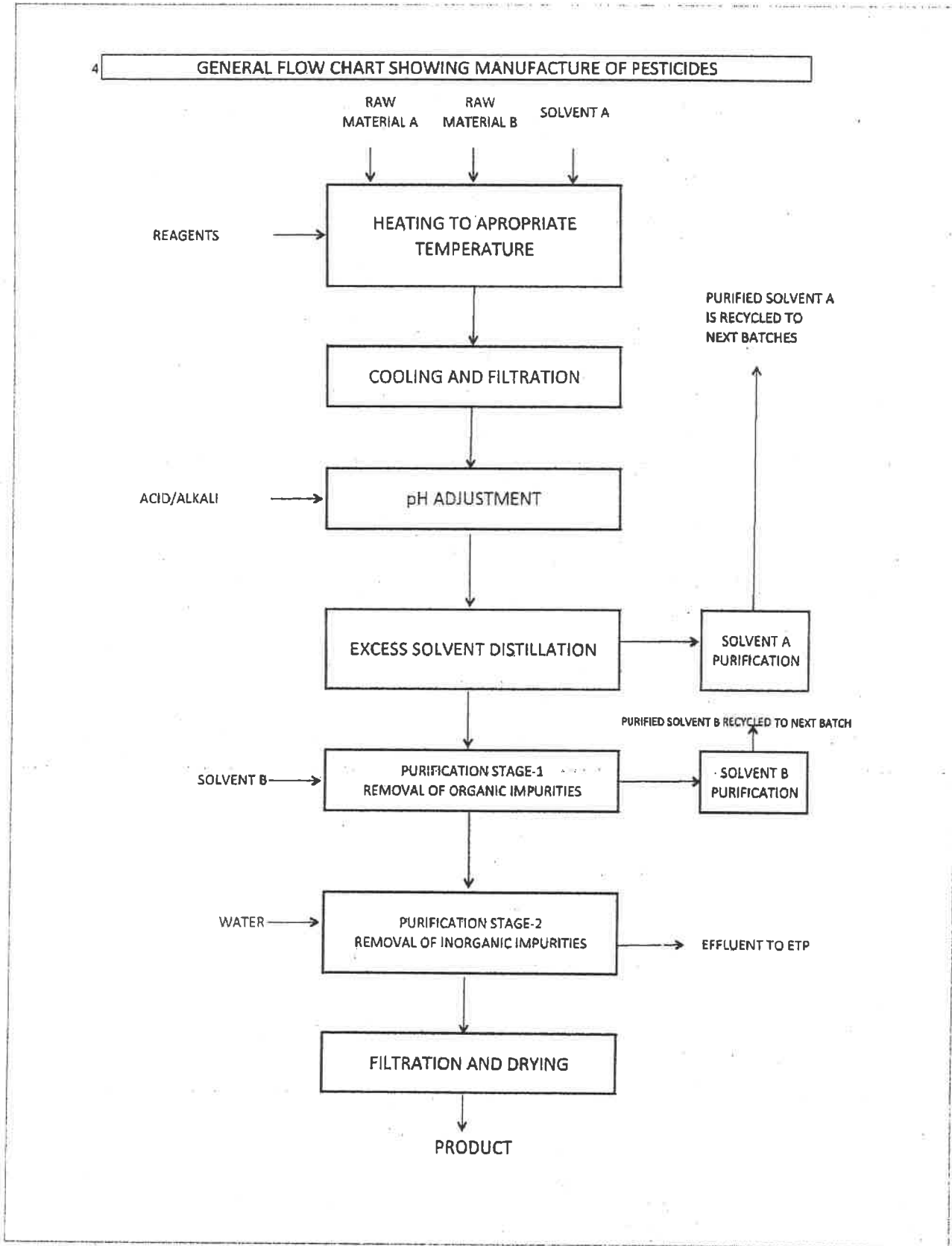
Licence Serial No. 1011

valid for the premises described below for use as a
factory is hereby renewed for the year 2016-2020
subject to the provisions of the Factories Act, 1948
and the rules made thereunder.This licence shall remain in force till 31st day of
December 2020

RENEWAL DETAILS

Year	Maximum Horse Power	Maximum No. of Workers	Amount of Fee paid	Authorised Officer
2016-2020	940	300		ADISH-SPT

K S Chahal
(JD IS&H)For Chief Inspector of Factories,
Haryana, ChandigarhThis is computer generated factory license to check & verify, please login to
<http://hrylabour.gov.in> with factory license verify no 0d06 b169 ds73 cab1



CRYSTAL CROP PROTECTION PRIVATE LIMITED
Village & Post Nathupur, Distt. Sonapat (Haryana)-131029

B. LIST OF RAW MATERIALS WITH PER DAY CONSUMPTION QUANTITY

S.No.	Name of Raw Material	Kg/Day
1	1,2,4-Triazole	260
2	2-(4-Hydroxyphenoxy)propionic Acid	840
3	2-amino-4-methoxy-6-methyl triazine	10
4	2-amino-4-methyl benzothiazole	445
5	2-carboxy benzene sulfoisocyanate methyl ester	20
6	2-chloro-5-chloromethylthiazole	455
7	2,6-Diethyl-N-(2-propoxyethyl)aniline	1320
8	2,6-Diethylaniline	850
9	3-mercapto-4-amino-6-tert.-butyl-1,2,4-triazine-5-one	145
10	3-methyl-4-nitroimino-perhydro-1,3,5-oxadiazine	445
11	5-Chloro-2,3-difluoropyridine	600
12	6-chlor-3-methylaminomethylpyridine	160
13	6-chloro-3-chloromethylpyridine (2-chloro-5-chloromethylpyridine) 60%	1250
14	Acetic Anhydride	600
15	ADCP	20
16	Ammonia	95
17	Benzene	65
18	Bromo Ketal	1215
19	Butanol	885
20	Chloroacetylchloride	1315
21	Copper	580
22	Cypermethric acid chloride	380
23	Diisopropylamine	140
24	DMF	815
25	ESPO	25
26	Ethanol	585
27	Ethylene Glycol	200
28	FeSO4	35
29	Formic Acid	100
30	H2SO4	915
31	HCl 30%	1075

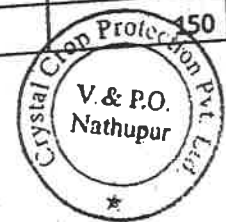


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CRYSTAL CROP PROTECTION PRIVATE LIMITED
 Village & Post Nathupur, Distt. Sonapat (Haryana)-131029

417

		1090
		300
32	Hexane	650
33	Hydrazine Hydrate	1000
34	Hydrogen peroxide	260
35	Isopropyl Alcohol	610
36	KOH	780
37	Lambda Acid Chloride	100
38	m-phenoxybenzaldehyde	315
39	MDC	250
40	Methanol	75
41	Methoxyacetyl Chloride	435
42	Methyl Bromide	110
43	Methyl-2-N-(2,6-dimethylphenyl)alaninate	400
44	N-Cyanomethylacetamide	600
45	n-Heptane	1680
46	N-nitroiminoimidazolidine	235
47	N-phosphonomethyliminodiacetic acid	1400
48	NaCN	825
49	O,O-bis-2-chloroethyl-2-chloroethanephosphonate	290
50	O,O-DMPAT	1120
51	Paraformaldehyde	340
52	Phosphorous Pentachloride	360
53	Potassium Carbonate	70
54	Propargyl Chloride	205
55	Soda Ash	1780
56	Sodium Hydroxide	60
57	Sodium, 2,4-dichlorophenoxyacetate	20
58	TEA	150
50	TEBA	
60	Xylene	



FARMASINO PHARMACEUTICALS (JIANGSU) CO. LTD.**SAFETY DATA SHEET**

according to Regulation (EC) No. 453/2010
Version 5.1 Revision Date 21.12.2015
Print Date 18.11.2016

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product identifiers**
 Product name : 2-Chloro-5-(chloromethyl)pyridine 60% in DMF
 Product Number : 516910
 CAS-No. : 70258-18-3
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Identified uses : Laboratory chemicals, Manufacture of substances
- 1.3 Details of the supplier of the safety data sheet**
 Company : NO.100 JIANYE ROAD
 NANJING
 CHINA
 Telephone : +86 25 86907226
 Fax : +86 86 25 86907203
 E-mail address : info@farmasino.com
- 1.4 Emergency telephone number**
 Emergency Phone # : +86 25 86907226

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**
 Classification according to Regulation (EC) No 1272/2008
 Acute toxicity, Oral (Category 4), H302
 Skin corrosion (Category 1B), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

- 2.2 Label elements**
 Labelling according Regulation (EC) No 1272/2008
 Pictogram

Signal word : Danger
 Hazard statement(s)
 H302 : Harmful if swallowed.
 H314 : Causes severe skin burns and eye damage.



Precautionary statement(s)
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/ physician.
 Supplemental Hazard Statements none

2.3 Other hazards
 Lachrymator.

SECTION 3: Composition/Information on Ingredients

3.1 Substances
 Formula : C₆H₅Cl₂N+C₃H₇NO
 Molecular weight : 162,02 g/mol+73,09g/mol
 CAS-No. : 70258-18-3

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
2-Chloro-5-(chloromethyl)pyridine		
CAS-No. 70258-18-3	Acute Tox. 4; Skin Corr. 1B; H302, H314	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

A20

- 5.2 **Special hazards arising from the substance or mixture**
Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas
- 5.3 **Advice for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 **Further information**
No data available

SECTION 6: Accidental release measures

- 6.1 **Personal precautions, protective equipment and emergency procedures**
Avoid contact with spilled product or contaminated surface.
Use personal protective equipment.
- 6.2 **Environmental precautions**
Do not let product enter drains.
- 6.3 **Methods and materials for containment and cleaning up**
Use mechanical handling equipment. Keep in suitable, closed containers for disposal.
Clean contaminated floors and objects thoroughly, observing environmental regulations.
- 6.4 **Reference to other sections**
For disposal see section 13.

SECTION 7: Handling and storage

- 7.1 **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
For precautions see section 2.2.
- 7.2 **Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- 7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

- 8.1 **Control parameters**
Components with workplace control parameters
- 8.2 **Exposure controls**
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 168(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact



Material: Nature latex/chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 30 min
Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance Form: Liquid
- b) Odour No data available
- c) Odour Threshold No data available
- d) pH No data available
- e) Melting point/freezing point Melting point/range: 37 - 42 °C - lit.
- f) Initial boiling point and boiling range No data available
- g) Flash point 78,5 °C - closed cup
- h) Evaporation rate No data available
- i) Flammability (solid, gas) No data available
- j) Upper/lower flammability or explosive limits No data available
- k) Vapour pressure No data available
- l) Vapour density No data available
- m) Relative density No data available
- n) Water solubility No data available
- o) Partition coefficient: n-octanol/water log Pow: 2,051
- p) Auto-ignition temperature No data available
- q) Decomposition temperature No data available

- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

- 10.1 Reactivity**
No data available
- 10.2 Chemical stability**
Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions**
No data available
- 10.4 Conditions to avoid**
No data available
- 10.5 Incompatible materials**
Strong oxidizing agents
- 10.6 Hazardous decomposition products**
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

Cough, Shortness of breath, Headache, Nausea, Vomiting



423

SECTION 12: Ecological information

- 12.1 Toxicity**
No data available
- 12.2 Persistence and degradability**
No data available
-
- 12.3 Bioaccumulative potential**
No data available
-
- 12.4 Mobility in soil**
No data available
- 12.5 Results of PBT and vPvB assessment**
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects**
No data available

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods**
- Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- Contaminated packaging**
Dispose of as unused product.

SECTION 14: Transport information

- 14.1 UN number**
ADR/RID: 3265 IMDG: 3265 IATA: 3265
- 14.2 UN proper shipping name**
ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2-Chloro-5-(chloromethyl)pyridine)
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2-Chloro-5-(chloromethyl)pyridine)
IATA: Corrosive liquid, acidic, organic, n.o.s. (2-Chloro-5-(chloromethyl)pyridine)
- 14.3 Transport hazard class(es)**
ADR/RID: 8 IMDG: 8 IATA: 8
- 14.4 Packaging group**
ADR/RID: II IMDG: II IATA: II
- 14.5 Environmental hazards**
ADR/RID: no IMDG Marine pollutant: no IATA: no
- 14.6 Special precautions for user**
No data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- 15.2 Chemical Safety Assessment**
For this product a chemical safety assessment was not carried out

424

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. FARMASINO PHARMACEUTICALS(JIANGSU)CO. LTD. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.



F. No. J-11011/120/2011-IA II (II)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003

E-mail : lk.bokolia@nic.in
Telefax : 011: 2436 6017
Dated 23rd May, 2012

To,

M/s Crystal Phosphate Ltd.
M-5, GI/17, Industrial Area,
G.T. Karnal Road,
Azadpur Delhi-110033.

E-mail: publicaffairs@crystalphosphates.com; Fax No.: 011-27118885

Subject: Expansion of the existing Pesticide Formulation Plant (90 MTPD) by installing Pesticide Manufacturing Unit (21 MTPD) at Village Nathupur, District Sonapat, Haryana by M/s Crystal Phosphates Limited - Environmental Clearance reg.
Ref. : Your letter no. nil dated 5th February, 2011.

Sir,

Kindly refer your letter dated 5th February, 2011 alongwith project documents including Form I, Terms of References, Pre-feasibility Report, EIA/EMP Report alongwith Public Hearing Report and subsequent submission of additional information vide letter dated 27th April, 2011, 13th June, 2011 and 10th October, 2011 regarding above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that proposal is for expansion of the existing pesticide formulation plant (90 MTPD) by installing Pesticide Manufacturing Unit (21 MTPD) at Village Nathupur, District Sonapat, Haryana by M/s Crystal Phosphates Limited. Total plot area is 18,005 m². Total project cost is Rs. 15.00 Crores. Protected forest is located at 5.5 Km and reserve forest is located at 9 Km. Following products will be manufactured:

S. N.	Product	Capacity
1	2,4-D Ethyl Ester Tech	2 MTPD
2	Glyphosate Tech	5 MTPD
3	Pretilachlor / Butachlor Tech	3.4 MTPD
4	Sulfosulfuron Tech	20 MTPA or 067 MTPD
5	Cypermethrin	200 MTPA or 067 MTPD
6	Metribuzin Tech	40 MTPA or 0.134 MTPD
7	Neonicotinamides i.e. Imidacloprid, Acetamiprid, Thiomethaxam	1 MTPD
8	Synthetic Pyrethroids i.e. Lambda Cyhalothrin	2 MTPD
9	Propiconazoles	2 MTPD
10	Copper Oxy Chloride Technical	1 MTPD
11	Mataxyl Technical	0.5 MTPD
12	Acephate Technical	1.5 MTPD
13	Ethephone Technical	0.7 MTPD
14	Tricyclozoles	0.5 MTPD
15	Clodinafop propargy Technical	1.5 MTPD
	Total	21 MTPD

7/1

3.0 Stack of adequate height will be provided to oil fired thermic fluid heater and steam boiler (2 TPH). Process emissions will be scrubbed by two stage/three stage alkali scrubber. Total fresh water requirement from ground water source will be 23 m³/day. Industrial wastewater generation will be 8.3 m³/day and segregated into high COD/organic waste, high COD/TDS and low COD/TDS effluent streams. High COD/organic waste/ toxic aqueous effluent will be incinerated. High COD/TDS effluent stream will be passed through stripper and evaporated through MEE. Low COD/TDS effluent stream will be treated in effluent treatment plant (ETP) followed by reverse osmosis (RO) and RO reject will be incinerated and treated water recycled/reused to achieve zero discharge. ETP sludge and MEE residue salt will be sent to treatment storage disposal facility (TSDf) for hazardous waste. Waste oil/spent oil will be sold to registered recyclers/re-processors.

4.0 Public Hearing / Public Consultation meeting was conducted on 21st December, 2010.

5.0 All units producing technical grade pesticides are listed at S.N. 5(b) under category 'A' and appraised at Central level.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 84th 25th and 30th meetings held during 21st August, 2008, 28th-30th July, 2011 and 15th-16th December, 2011 respectively. The Committee recommended the proposal for environmental clearance.

7.0 Based on the information submitted by the project proponent, the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14th September 2006, subject to the compliance of the following Specific and General Conditions:

A. SPECIFIC CONDITIONS:

- i) National Emission Standards for Pesticide Manufacturing and Formulation Industry issued by the Ministry vide G.S.R. 46(E) dated 3rd February, 2006 and amended time to time shall be followed by the unit.
- ii) Permission shall be obtained from the State Forest Department regarding the impact of the proposed project on the surrounding reserve forest.
- iii) Stack of adequate height shall be provided to oil fired thermic fluid heater and steam boiler. Online oxygen analyzer shall be installed to ensure air/fuel ratio and combustion efficiency.
- iv) As proposed, process fumes shall be scrubbed by two stage/three stage alkali scrubber. The scrubbing media shall be sent to effluent treatment plant (ETP) for treatment. Efficiency of air pollution control device shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards. The system shall be interlocked with the pollution control equipments so that in case of any increase in pollutants beyond permissible limits, plant shall be automatically stopped. Stack monitoring shall be done regularly and report shall be submitted to Haryana State Pollution Control Board (HSPCB) and the Ministry's regional office at Chandigarh.
- v) In order to control odour, outlet of process vents shall be connected to the incinerator.
- vi) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed by the unit.
- vii) In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system

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shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored and records maintained. The emissions shall conform to the limits stipulated by the HSPCB.

- viii) For further control of fugitive emissions, following steps shall be followed :
1. Closed handling system shall be provided for chemicals.
 2. Reflux condenser shall be provided over reactor.
 3. System of leak detection and repair of pump/pipeline based on preventive maintenance.
 4. The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
 5. Cathodic protection shall be provided to the underground solvent storage tanks.
- ix) A proper Leak Detection And Repair (LDAR) Program for pesticide industry shall be prepared and implemented as per CPCB guidelines. Focus shall be given for prevention of fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to.
- x) Continuous monitoring system for VOCs shall be installed at all important places/areas. Effective measures shall be taken immediately, when monitoring results indicate above the permissible limits.
- xi) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
- xii) The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and the HSPCB. The levels of PM_{10} , SO_2 , NO_x , VOC, HCl and HC (Methane and Non-methane) in ambient air and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.
- xiii) Chilled brine circulation system shall be provided to condensate solvent vapors and reduce solvent losses. It shall be ensured that solvent recovery should not be less than 95%.
- xiv) Solvent management shall be carried out as follows :
- i. Reactor shall be connected to chilled brine condenser system
 - ii. Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
 - iii. The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery
 - iv. Solvents shall be stored in a separate space specified with all safety measures.
 - v. Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
 - vi. Entire plant shall be flame proof. The solvent storage tanks should be provided with breather valve to prevent losses.
- xy) Total water requirement from ground water source shall not exceed $23 \text{ m}^3/\text{day}$ and prior permission shall be obtained from the CGWA/SGWA.

Sub

- xvi) Industrial wastewater generation shall not exceed 8.3 m³/day. Total process effluent (8.3 m³/day) shall be segregated into high COD/organic waste, high COD/TDS and low COD/TDS effluent streams. High COD/organic waste/ toxic aqueous effluent shall be incinerated. High COD/TDS effluent stream shall be passed through stripper and evaporated through MEE. Low COD/TDS effluent stream shall be treated in effluent treatment plant (ETP) followed by RO and treated water shall be used in boiler, washing etc to achieve zero discharge. Domestic wastewater should be treated in STP. Water quality of treated effluent shall be monitored regularly.
- xvii) No effluent shall be discharged outside the premises and 'Zero' discharge concept shall be adopted.
- xviii) Incinerator comprising primary and secondary chamber shall be designed as per CPCB guidelines. SO₂, NO_x, HCl and CO emissions shall be monitored in the stack regularly.
- xix) Hazardous chemicals shall be stored in tanks in tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.
- xx) The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from HSPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for fire fighting facilities in case of emergency. Membership of TSDF for hazardous waste disposal shall be obtained.
- xxi) As proposed, ETP sludge and evaporation residue shall be sent to TSDF site. High calorific value waste such as spent organic shall be sent to cement factory/incinerated.
- xxii) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHQ) Rules, 1989 as amended in October, 1994 and January, 2000. All Transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- xxiii) The company shall undertake following waste minimization measures :-
- Metering and control of quantities of active ingredients to minimize waste.
 - Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - Use of automated filling to minimize spillage.
 - Use of Close Feed system into batch reactors.
 - Venting equipment through vapour recovery system.
 - Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- xxiv) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- xxv) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- xxvi) Green belt shall be developed at least in 33 % of the plant area in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around the proposed pesticide unit to mitigate the odour problem. Selection of plant species shall be as per the CPCB guidelines.

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- xxvii) All the commitments made during the Public Hearing / Public Consultation meeting held on 21st December, 2010 shall be satisfactorily implemented and adequate budget provision should be made accordingly.
- xxviii) The company shall make the arrangement for protection of possible fire and explosion hazards during manufacturing process in material handling.
- xxix) Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.

B. GENERAL CONDITIONS:

- i. The project authorities shall strictly adhere to the stipulations made by the Haryana State Pollution Control Board.
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- iii. The locations of ambient air quality monitoring stations shall be decided in consultation with the Haryana State Pollution Control Board (HSPCB) and it shall be ensured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- iv. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- v. The Company shall harvest rainwater from the roof-tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- vi. During transfer of materials, spillages shall be avoided and gulland drains be constructed to avoid mixing of accidental spillages with domestic wastewater and storm water drains.
- vii. Usage of Personnel Protection Equipments by all employees/ workers shall be ensured.
- viii. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- ix. The company shall also comply with all the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.

- x. The company shall undertake CSR activities and all relevant measures for improving the socio-economic conditions of the surrounding area.
- xi. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- xii. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- xiii. The company shall earmark sufficient funds for recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- xiv. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from who suggestions/ representations, if any, were received while processing the proposal.
- xv. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the Haryana State Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- xvi. The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the Haryana State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Chandigarh Regional Offices of MoEF by e-mail.
- xvii. The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- xviii. The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

8.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

9.0 The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

10.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

[Handwritten Signature]

(Lalit Bokolia)
Joint Director

Copy to :-

1. The Principal Secretary, Environment Department, Government of Haryana, SCO 1-2-3, Sector 17-D (2nd Floor), Chandigarh.
2. The Chief Conservator of Forests (Central), Regional Office (Northern Zone), Bay No.24-25, Sector 31-A, Dakshim Marg, Chandigarh-160030.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula.
5. The Joint Secretary, IA Division, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File/Monitoring File/Record File.

[Handwritten Signature]
(Lalit Bokolia)
Joint Director



CRYSTAL CROP PROTECTION PRIVATE LIMITED
Village & Post Nathupur, Distt. Sonapat (Haryana)-131029

ANNEXURE-7

432

A. LIST OF PRODUCTS WITH PROPOSED PER DAY PRODUCTION CAPACITY

Name of the Product	Production Capacity
2,4 -D Ethyl Ester Tech	2 MT per day
Glyphosate Tech	5 MT per day
Pretilachlor / Butachlor Tech	3.4 MT per day
Sulfosulfuron Tech/Metsulfosulfuron Methyl	20 MT per year Or .067 MT/day
Cypermethrin	200 MT per year Or 0.67 MT/day
Metribuzin Tech	40 MT per year Or 0.134 MT/day
Neonicotinamides i.e. Imidacloprid, Acetamiprid, Thiomethaxam	1 MT per day
Synthetic Pyrethroids i.e. Lambda Cyhalothrin	2 Mt per day
Propiconazoles	2 MT per day
Copper Oxy Chloride Technical	1 MT
Matalaxyl Technical	0.5 MT
Acephate Technical	1.5 MT
Ethephone Technical	0.7 MT
Tricyclozoles	0.5 MT
Clodinofop propargyl Technical	1.5 MT
Total	21 Mt per day



433

ANNEXURE-8

CRYSTAL CROP PROTECTION PRIVATE LIMITED
 Village & Post Nathupur, Distt. Sonapat (Haryana)-131029

B. LIST OF RAW MATERIALS WITH PER DAY CONSUMPTION QUANTITY

S.No.	Name of Raw Material	Kg/Day
		260
1	1,2,4-Triazole	840
2	2-(4-Hydroxyphenoxy)propionic Acid	10
3	2-amino-4-methoxy-6-methyl triazine	445
4	2-amino-4-methyl benzothiazole	20
5	2-carboxy benzene sulfoisocyanate methyl ester	455
6	2-chloro-5-chloromethylthiazole	1320
7	2,6-Diethyl-N-(2-propoxyethyl)aniline	850
8	2,6-Diethylaniline	145
9	3-mercapto-4-amino-6-tert.-butyl-1,2,4-triazine-5-one	445
10	3-methyl-4-nitroimino-perhydro-1,3,5-oxadiazine	600
11	5-Chloro-2,3-difluoropyridine	160
12	6-chloro-3-methylaminomethylpyridine	1250
13	6-chloro-3-chloromethylpyridine (2-chloro-5-chloromethylpyridine) 60%	600
14	Acetic Anhydride	20
15	ADCP	95
16	Ammonia	65
17	Benzene	1215
18	Bromo Ketal	885
19	Butanol	1315
20	Chloroacetylchloride	580
21	Copper	380
22	Cypermethric acid chloride	140
23	Diisopropylamine	815
24	DMF	25
25	ESPO	585
26	Ethanol	200
27	Ethylene Glycol	35
28	FeSO4	100
29	Formic Acid	915
30	H2SO4	1075
31	HCl 30%	

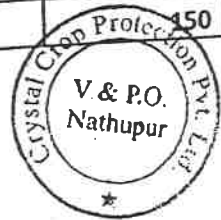


CRYSTAL CROP PROTECTION PRIVATE LIMITED
 Village & Post Nathupur, Distt. Sonapat (Haryana)-131029

3

434

		1090
32	Hexane	300
33	Hydrazine Hydrate	650
34	Hydrogen peroxide	1000
35	Isopropyl Alcohol	260
36	KOH	610
37	Lambda Acid Chloride	780
38	m-phenoxybenzaldehyde	100
39	MDC	315
40	Methanol	250
41	Methoxyacetyl Chloride	75
42	Methyl Bromide	435
43	Methyl-2-N-(2,6-dimethylphenyl)alaninate	110
44	N-Cyanomethylacetamide	400
45	n-Heptane	600
46	N-nitroiminoimidazolidine	1680
47	N-phosphonomethyliminodiacetic acid	235
48	NaCN	1400
49	O,O-bis-2-chloroethyl-2-chloroethanephosphonate	825
50	O,O-DMPAT	290
51	Paraformaldehyde	1120
52	Phoporous Pentachloride	340
53	Potassium Carbonate	360
54	Propargyl Chloride	70
55	Soda Ash	205
56	Sodium Hydroxide	1780
57	Sodium, 2,4-dichlorophenoxyacetate	60
58	TEA	20
50	TEBA	150
60	Xylene	





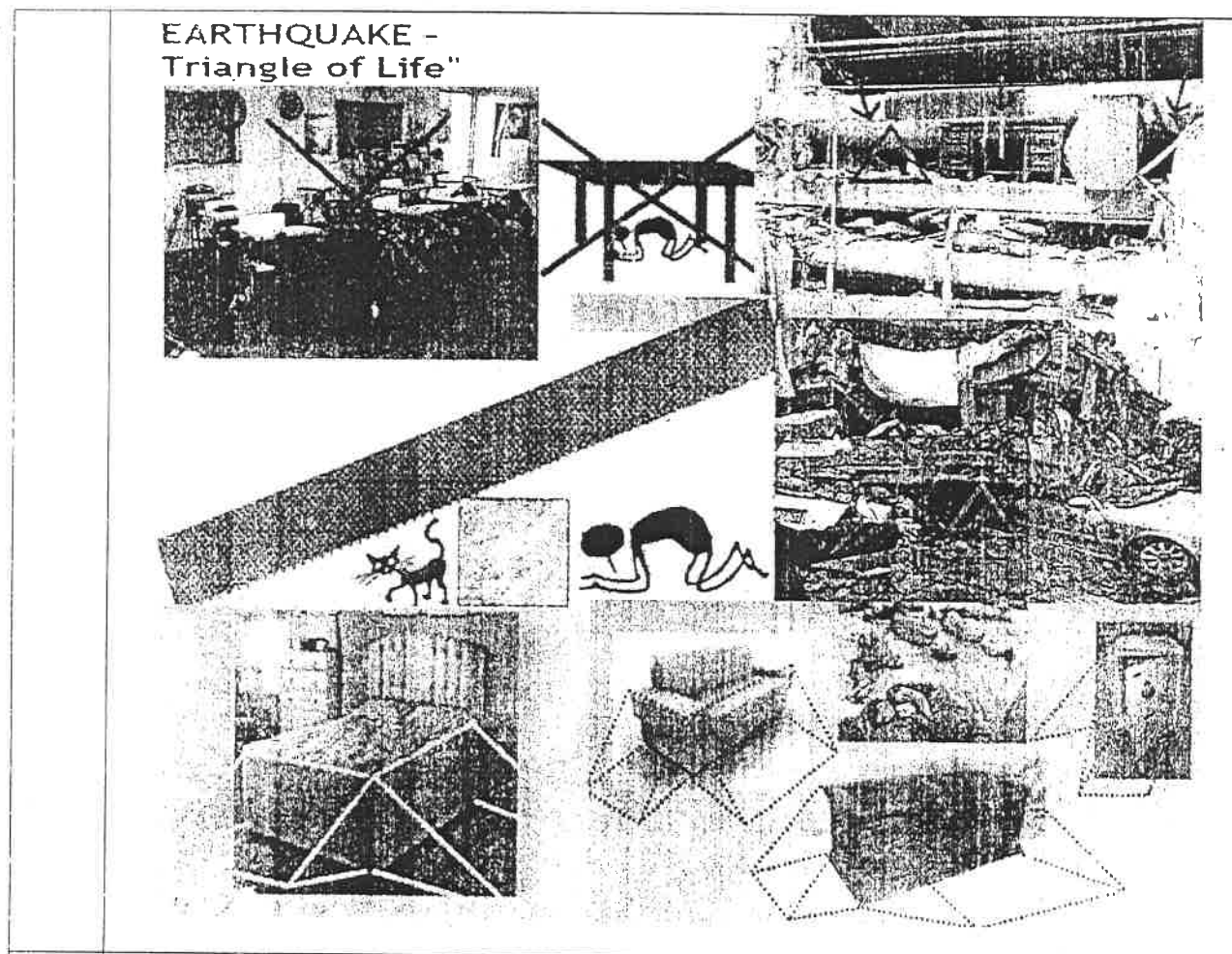
CRYSTAL CROP PROTECTION PVT LTD (Technical Plant)

2CHLO. 5CHLORO. PYRIDINE(CCMP 60%IN DMF)	PC46	RIGN	40050	KG
2-CHLORO 5-CHLOROMETHYL THIAZOLE	PC46	RTOG	4000	KG
2-HYDRAZINO-4-METHYL BENZOTHAZOLE	PC46	RIGN	10000	KG
2-NITRO IMINO IMIDAZOLIDINE (NII 98%)	PC46	RIGN	28950	KG
3-METHYL-4-NITRO IMINOPERHYDRO-1,3,5-OX	PC46	RIGN	345	KG
5 CHLORO-2, 3-DIFLUOROPRIDINE(CDFP)	PC46	RAGN	316	KG
ACETIC ACID	PC46	RSGN	630	KG
CAUSTIC SODA (FLAKES)	PC46	RAGN	4700	KG
DI METHYL FORMAMIDE	PC46	RSGN	4590	KG
ETHYLENE DI CHLORIDE	PC46	RSGN	910	KG
HYDROCHLORIC ACID	PC46	RSGN	3558	KG
M.E.G	PC46	RTOG	5060	KG
METHANOL	PC46	RSGN	5019	KG
MIX SOLVENT	PC46	RSGN	5000	L
N-HEXANE	PC46	RSGN	18602	L
N-METHYL PYROLLIDONE (NMP)	PC46	RSGN	3990	KG
POTASSIUM CARBONATE	PC46	RAGN	13821	KG.
POTASSIUM HYDROXIDE	PC46	RAGN	3000	KG
SODIUM HYPO CHLORITE	PC46	RAGN	5475	KG
TETRAMETHYL AMMONIUM HYDROXIDE	PC46	RIGN	300	KG

STANDARD OPERATING PROCEDURE

436

SOP NO : EHS002:01	DEPT.:EHS	17 Page of 16
SUPERCEDES:00	AREA : Nathupur Plant	Effective date:27.01.17
SUBJECT :On-Site EMERGENCY PLAN		



11.10	<p>In case of Health Emergencies:</p> <ul style="list-style-type: none"> ▪ In case of any Health emergency e.g. Injury to person, General Health problem, immediately inform the SMC & HSE/HR lead and safely shift the patient to medical Room • First Aiders will provide the required first aid. • If required the patient shall be shifted to hospital / nursing home for further medical assistance as per recommendation of the doctor.(on contact)
12.0	<p>Return To Normal Working:</p> <ul style="list-style-type: none"> • The Incident Site controller will declare the situation after the emergency is over and instruct

	PREPARED BY	CHECKED BY	APPROVED BY
NAME	Balkar Singh		Mr. Munish Mehta
DESIGNATION	Manager-EHS		Unit Head
SIGN & Date	Bs		ms

STANDARD OPERATING PROCEDURE

437

SOP NO : EHS002:01	DEPT.:EHS	18 Page of 16
SUPERCEDES:00	AREA : Nathupur Plant	Effective date:27.01.17
SUBJECT :On-Site EMERGENCY PLAN		

	<p>for start of normal working to the nearby plants.</p> <ul style="list-style-type: none"> In case of major emergency, The Incident Site controller shall inform Plant Head to get instruction for start of normal working in the affected area. The Incident Site controller shall ensure that all the evidences are preserved as such to facilitate investigation of the cause of accident. When the emergency will be over information through all clear siren.
13.0	<p>Startup Plan After Emergency:</p> <ul style="list-style-type: none"> After the emergency responsible person to check the losses of property, persons, machines & materials. Concerned departments will repair the damaged building, machines, Equipment's, tanks, lines, electrical Equipment's/ wires, etc. as required & tested. Switch on the power supply after ensuring the safe conditions. Start required services one by one.
14.0	<p>Post-Accident Evaluation: All types of the incidents are properly recorded and investigated to establish and implement the corrective and preventive actions</p>
15.0	<p>Information to Local Authorities: In case of the Onsite emergency, Manager- HR shall inform the concerned local authorities and shall also file a report to the required authorities as per the rules.</p>

	PREPARED BY	CHECKED BY	APPROVED BY
NAME	Balkar Singh		Mr. Munish Mehta
DESIGNATION	Manager-EHS		Unit Head
SIGN & Date	Bs		ms

Hazard Identification
TYPE OF Hazard **Chemical Hazard**

Our being a Pesticide manufacturing company , so toxic Chemicals and flammable and corrosive are being handleed. The hazards involved in these chemicals are a follows

Type of Hazard	Safety measures available	Safety guidelines
1 Storage of chemicals	Separate space for each chemical	Chemicals to be stored in designated place for the chemical
	As per MSDS guidelines this storage space is identified and equipped	While storing person should see the Storage clause 7 and reconfirm that it is stored as per the requirements in MSDS
	Chemicals to be stored in tanks are equipped with required fencing and dyke arrangements	Thickness testing of tanks at periodic interval to ensure that tank is mechanically stable
2 Handling of Chemical	handling of chemical to be done as per the form of the chemical and hazard involved	While handling of chemical PPE's (personal protective equipments) to be used as per requirements of MSDS
	chemicals use in tanks having adequate safety measures like cooling arrangement if required	While charging or discharging chemicals into the process tanks, designed equipments to be used and PPE's to be used as per the MSDS
3 Transportation of chemicals	The material being packed at factory has to be ensured that it follows BIS norms for packing	Material to be packed has to follow BIS guidelines . Deviations if any (for improvement) also to be validated by management

		Being a Pesticide industry most of the materials packed are hazardous in nature so proper labelling on the packing by highlighting the hazard	Ensure all drums/ cartons / bottles are having proper hazard labelled
		Packing material purchased duly approved	packing material purchased has to be approved by testing / certificate of analysis from supplier.
		Export of material in international standards	All exports shipments to have UN marking (this is approved by indian institute of packaging)
		Export container stuffing	Container stuffing to be done full and free space if any to be covered with Lacing and balloons
		Trucks used for transport good quality	Trucks to be checked before loading should not have sharp edges which can damage the packing material

TYPE OF Hazard Fire hazard

Type of Hazard	Safety measures available	Safety guidelines
1 Flammable chemicals	Stored in Confined area as approved by Department of explosives	proper earthing of the tankers while unloading is ensured to avoid spark generation
2 Flammable chemicals	Area to be flameproof	Any hot work in the area like welding or grinding to be done with special approval in Hot work permit

439
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List of fire fighting Aids available at site

~~#39~~

440

FIRE EXTINGUISHERS			
#	Type	KG/Ltr.	Nos
1	Mechanical Foam	9 LTR	12
2	Mechanical Foam	50 LTR	3
3	CO2	4.5 KG	25
4	ABC Dry Powder	10 KG	22
5	ABC Dry Powder	4 KG	25
6	ABC Dry Powder	5 KG	16
7	ABC Dry Powder	9 KG	5
8	ABC Dry Powder	6 KG	67
9	ABC Dry Powder	50 KG	2
10	ABC Dry Powder	2 KG	1
TOTAL			178

HYDRANT POINTS		
#	Type	Nos
1	Hydrant Monitor	2
2	Foam Monitor	1
3	Hose Reel	2
4	Hydrant Point (SH)	24
5	Foam Branch (5X)	2
6	Fire Brigade Input point	2

PUMP DETAILS					
#	Type	HP	Ltr/Min	HEAD	RPM
1	JOKEY PUMP	15	225	70M	2900
2	MAIN PUMP	60	2280	70M	2900
3	Water Tank capacity	180KL			

ERT - Fire Fighters

~~441~~

441

SR No	Emp. Code	Name	Department	Role	Designation
1	1469	Deepak Kumar	Production	Fire Fighter	
2		Sanjay Kumar Rathi	Production	Fire Fighter	
3		Ravi	Production	Fire Fighter	
4		Pankaj	Production	Fire Fighter	
5		Gagan Pandey	Production	Fire Fighter	
6		Shivam	Production	Fire Fighter	
7		Deepak	Production	Fire Fighter	
8		Surender	Production	Fire Fighter	
9		Ramasare	Production	Fire Fighter	
10		Pawan	Production	Fire Fighter	
11		Kamal Kishore	Production	Fire Fighter	
12		DN Tiwari	Bottle Plant	Fire Fighter	
13		Ram Surat	Bottle Plant	Fire Fighter	
14		Ram Sanehi	Bottle Plant	Fire Fighter	
15		Dinesh	Bottle Plant	Fire Fighter	
16		KP Malik	KRDC	Fire Fighter	
17		Rakesh Prajapati	KRDC	Fire Fighter	
18		Varun Rai	KRDC	Fire Fighter	
19		Pankaj Malkani	KRDC	Fire Fighter	
20		Aakash	KRDC	Fire Fighter	
21		Anubhav	Production	Fire Fighter	
22		Vivek	Production	Fire Fighter	
23		Deepak	Production	Fire Fighter	
24		Ratnesh	Production	Fire Fighter	
25		Sanjeev	Production	Fire Fighter	
26		Vipin Kaushik	Production	Fire Fighter	
27		Sikander	Production	Fire Fighter	
28		Amit	Production	Fire Fighter	
29		Sunder	Store	Fire Fighter	
30		Babul	Store	Fire Fighter	
31		BYOmukesh	Warehouse	Fire Fighter	
32		Sunil	QA	Fire Fighter	
33		Sunil Kumar	QA	Fire Fighter	
34		Rajkishore	QA	Fire Fighter	
35		Shekhar	Maintenance	Fire Fighter	
36		Chandrma	Maintenance	Fire Fighter	
37		Ravinder Mann	Maintenance	Fire Fighter	
38		Ravinder Singh	Maintenance	Fire Fighter	
39		Praveen Kumar	Maintenance	Fire Fighter	
40		Raj Kumar	Maintenance	Fire Fighter	

ERT - First Aid Team

442

SR No	Emp. Code	Name	Department	Role	Designation
1	1794	Abhishek Rana	Production	First Aider	
2		Gaurav Pandey	KRDC	First Aider	
3		Ramesh	Production	First Aider	
4		Sanjeev	Production	First Aider	
5		Amardeep	LAB	First Aider	
6		Amit Kumar	LAB	First Aider	
7		Manoj Shekhar	LAB	First Aider	
8		Arun Sharma	LAB	First Aider	
9		Sarvan Kumar	LAB	First Aider	
10		Rajiv Kumar	LAB	First Aider	
11		Gaurav	LAB	First Aider	
12		Sultan Ali	LAB	First Aider	

ERT - Emergency Service Controllers

443

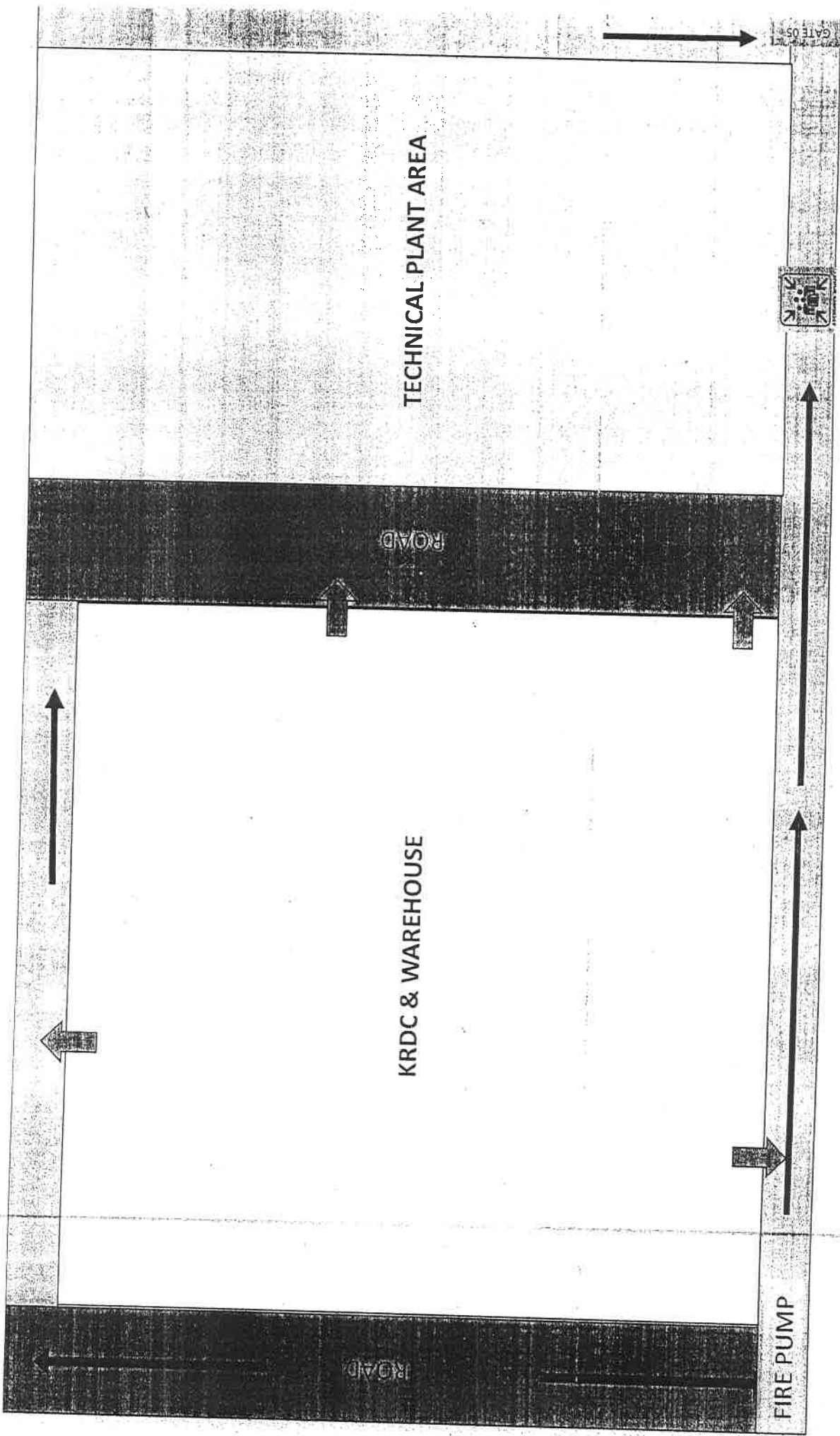
SR No	Emp. Code	Name	Department	Role
1		Ajay Jha	Maintenance	ESC-M
2		Sanjay	Maintenance	ESC-M
3		Kamal Dev	Maintenance	ESC-M
4		Yogesh	Maintenance	ESC-M
5		Vishavnath	Maintenance	ESC-M
6		Jeevan Sharma	Maintenance	ESC -M
7		Nand Lal	Maintenance	ESC-M
8		Anil	Maintenance	ESC-M
9		Daulat Ram	Maintenance	ESC-M
10		Vishram	Maintenance	ESC-M
11		Satbir	Maintenance	ESC-M
12		Om Prakash	Maintenance	ESC-M
13		Pradeep Kumar Shukla	Maintenance	ESC-M
14		Pradeep Kumar	Maintenance	ESC-M
15		Neeraj Sharma	Maintenance	ESC-M
16		Sandeep Saini	Electrician	ESC-E
17		Mainpal	Electrician	ESC-E
18		Vikrant Rathi	Electrician	ESC-E
19		Shivpujan	Electrician	ESC-E
20		Surendra	Electrician	ESC-E
21		Hasmat Ali	Electrician	ESC-E
22		Vineet	Electrician	ESC-E
23		Satish	Electrician	ESC-E
24		Raj Pal Singh	Utility	ESC-U
25		Sandeep Sharma	Utility	ESC-U
26		Prakash	Utility	ESC-U

ERT- Spill prevention Team

44B

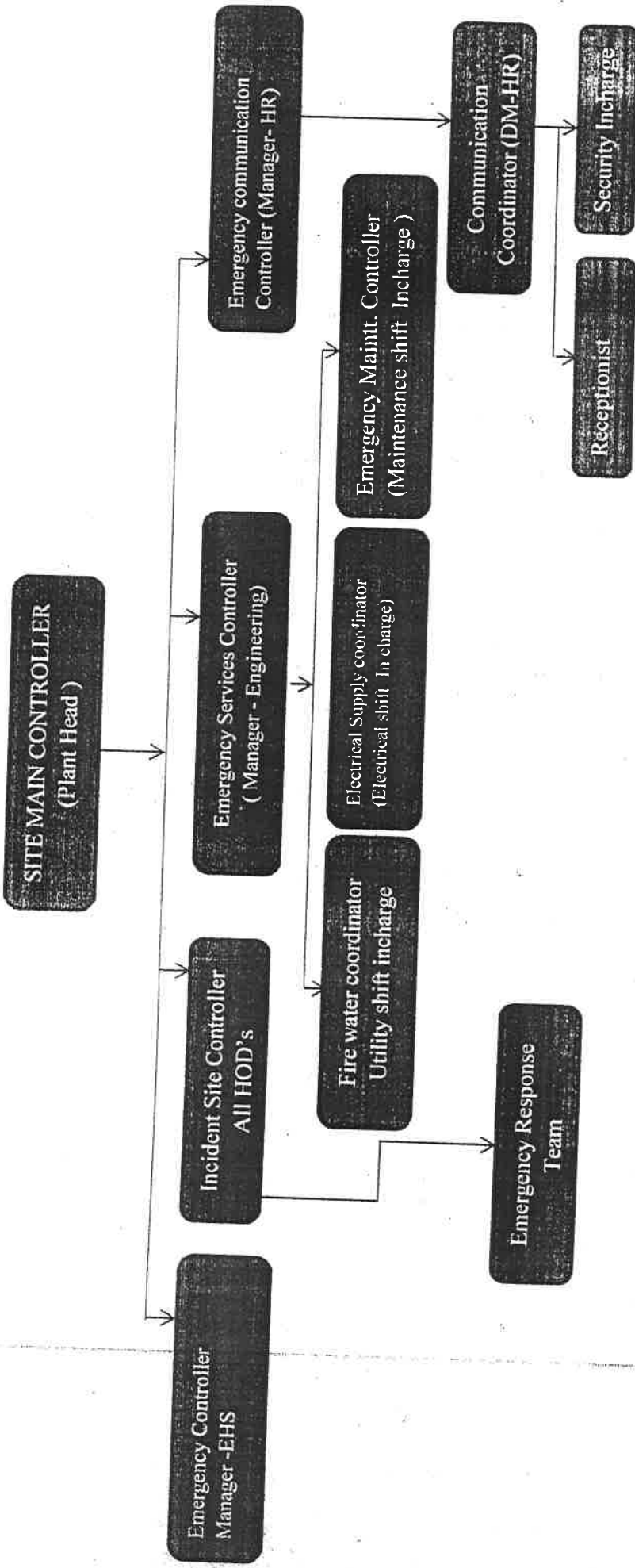
SR No	Emp. Code	Name	Department	Role	Designation
1		J Vikas	Production	HAZMAT Team	
2		Ankush	Production	HAZMAT Team	
3		Vijendra	Production	HAZMAT Team	
4		Ravi	Bottle Plant	HAZMAT Team	
5		Rajeev Kumar	Production	HAZMAT Team	
6		Alok Kumar	Production	HAZMAT Team	
7		Subhash	Store	HAZMAT Team	
8		Kisan	Store	HAZMAT Team	
9		Rajbir	Store	HAZMAT Team	
10		Vipin Panwar	Store	HAZMAT Team	
11		Vipin Pandey	Store	HAZMAT Team	
12		Jitendra	Store	HAZMAT Team	

Emergency Route



445

EMERGENCY CONTROL ORGANISATION



~~447~~
447

List of contact details of Key personal inside plant

Employee Name	Designation	Mobile Number
Mr Punit	Driver	7082102523
Mr. Subhash	Driver	7082102524
Mr Lakhan Kumar	Driver	7082102525
Dr Rajeev Ranjan Jha	Manager- Research & Development	7082102546
Mr.Palwinder Singh Kahlon	Manager-Production Planning & Inventory	7082102548
Mr. Sanjay Mittal	Senior Manager-Store	7082102549
Mr. Rakesh Chandra Choudhary	Deputy Manager HR	7082102550
Mr.Pankaj Pal	Deputy Manager-Maintenance	7082102551
Arvind Kumar Tyagi	Manager-Production	7082102552
Mr.Santosh Kumar Mahour	Officer-Field	7082102553
Mr.Satish Kumar	Manager Production	7082102554
Mr. Yogesh Kumar	Manager - Human Resource (Plant)	7082102555
Mr. Krishna Kant Tripathi	Deputy Manager - Production	7082102556
Mr.Jeevan Sharma	Maintenance (Tech Plant)	7082102557
Rakesh Kumar Prajapati	Officer-R&D	8295300101
Aakash Kumar	Officer-R&D	8295400101
Mr Brij	Assistant	8295500101
Mr.Pramod Kumar	Deputy General Manager - Quality Control	8295500176
Mr. Virendra Kumar Chaudhary	Vice President-Technical Manufacturing	8295500178
Mr. Balkar singh	Manager - EHS	8295508200
Mr. Mukesh Shrivastava	Officer-HR	8295600101
Anand Kumar Kaushik	Manager-Excise	9896600121
Pramod Kumar Jain	Coordinator-Production	9896600122
Tech Plant Team	Tech Plant	9996784606
Mr. Ram Singh	GM Prod	9050005426
Mr. Ak Tyagi	Manager Prod	9999979119
Mr.Anand Kaushik	Manager Excise	9812460433
DR Surender	Medical-Assistant	9813905311
Mr. Debajit Das	Manager Q. A	8860309252
Main Gate No-1(Security)		9050005429

448

Contact Details of Nearby FIRE STATIONS

S.NO.	FIRE STATIONS	PHONE NO.
1	Sonipat	0130-2242889
2	Narela	011-27761904
3	Bawana	011-27752222
4	Panipat	0177-2830318
5	Gohana	0130-2463411
6	Gannur	0130-2463411

Contact Details of Nearby HOSPITALS

S.NO.	HOSPITALS NAME	PHONE NO
1	Trauma Care	1033
2	Param Nursing Home	0130-2371165
3	CIVIL HOSPITAL Sonipat	0130-2231931

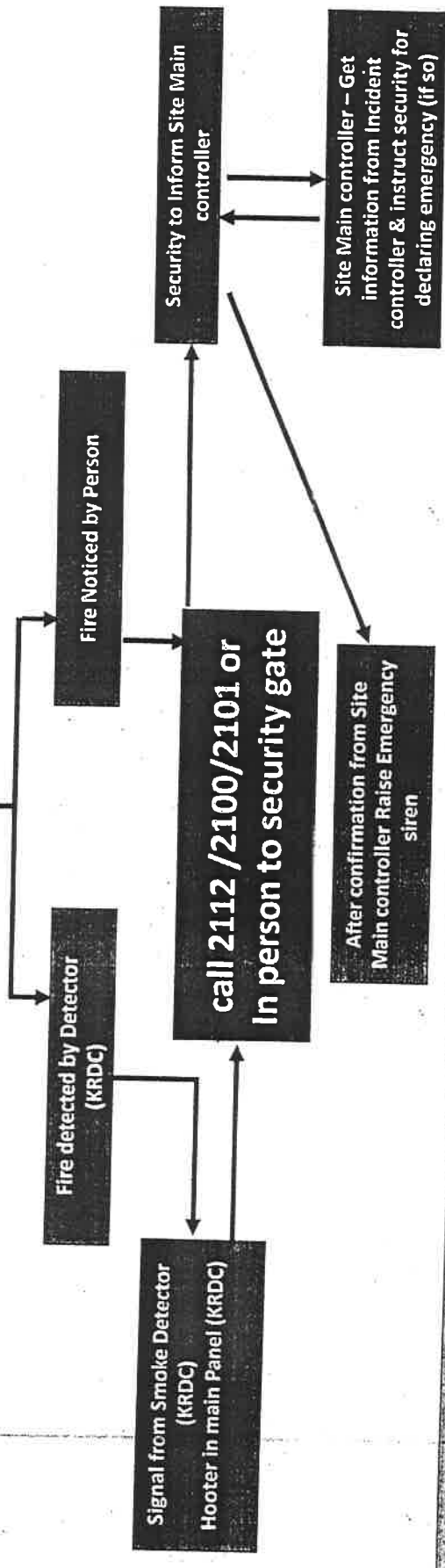
Contact Details of Nearby POLICE STATIONS

S.NO.	POLICE STATION NAME	PHONE NO.
1	KUNDLI	0130-2371131

NEAR BY DOCTORS

Sr No	NAME	PHONE NO.
1	Dr. RP Singh	Mobile -9999359534

COMMUNICATION AND ACTION IN CASE OF FIRE / EMERGENCY



After confirmation from Site Main controller Raise Emergency siren

On Hearing the Siren

Area Manager Shift supervisor to rush to site and take control of site Guide ERT to control fire / emergency

OTHER EMPLOYEES CONTRACTORS/VISITORS Rush to nearby ASSEMBLY POINT

All ERT members to RUSH to emergency site with portable fire extinguishers

4419

TEAM ACTION POINTS IN EMERGENCY

OTHER EMERGENCY SERVICES

Utility Operator / Supervisor RUSH to Pump house and ensure Water supply to hydrant / spray system

Electrician / Electrical Supervisor RUSH to MCC to facilitate Power cut off if required

All Drivers RUSH to their vehicles and be available there.

Mechanical supervisor / Fitter to RUSH to site with tool box.

Security Inspector to control gate / control room and facilitate for calling external help (Fire brigade / government agencies / surrounding industries etc)

Head count manager rush to assembly points to control assembly area & take head count.

Other employees; Don't rush to site, bring operations to safe situation and evacuate calmly if announced

ON EMERGENCY SITE

Assess the Fire / situation, if controllable use the nearest fire extinguisher and try to control the fire.

- Connect hydrant system.
- Extinguish Fire from all sides.
- Prevent further spreading.
- Cool surrounding area / tanks with water.
 - Stop air flow, blowers.
- Shut off electrical supply if required.
- Shut off compressed gas cylinders.
- Remove flammable material / containers if safely possible.
- Stop operations if required.
- Ask for out side help if required.

Don't endanger yourself,
Assess the situation, if beyond control,
Evacuate and guide for Evacuation

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ACTION AT EMERGENCY SITE

Incident Site Controller

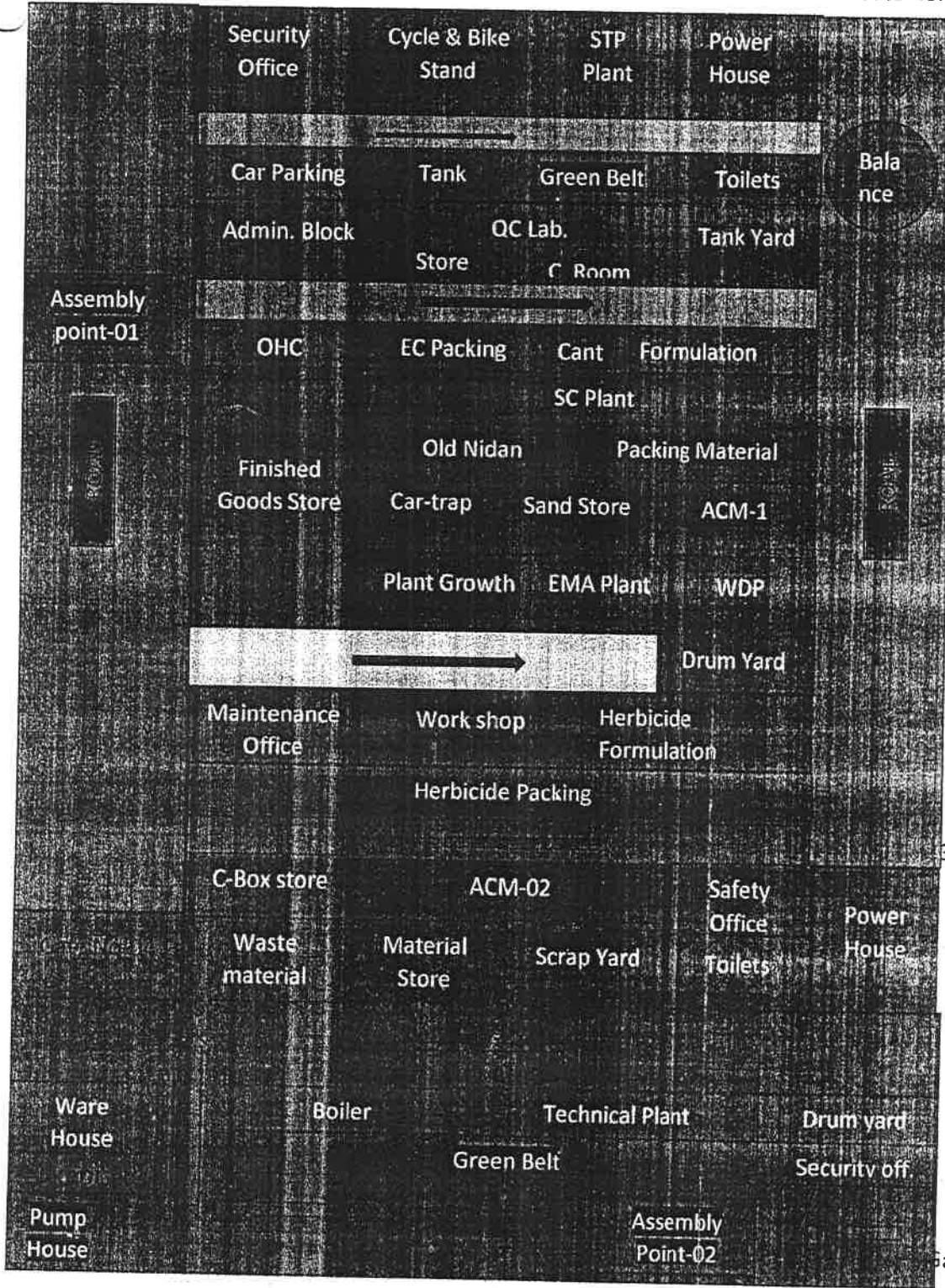
Incident Site Controller Group 1 (4 persons)	Supportive Controller 1		Supportive Controller 2	
	Group 2 (4 persons)	Group 3 (3-5 persons)	Group 4 (4 + 4 persons)	
<p>Connect Hydrant System</p> <p>Check for proper fitting</p> <p>Grip the hose properly and target the nozzle at base of fire.</p> <p>Signal the person to open the hydrant valve slowly to the required pressure.</p> <p>In case of solvent fires spray Foam by means of connecting portable foam trolleys to the hose, or with the fixed foam monitors</p>	<p>Connect Hydrant System</p> <p>Check for proper fitting.</p> <p>Grip the hose properly and target the nozzle at base of fire.</p> <p>Signal the person to open the hydrant valve slowly to the required pressure.</p> <p>Cool the surrounding area tanks / containers by spraying water to prevent further spread of fire.</p>	<p>Extinguish fire using the fire extinguishers.</p> <p>For Sprinkler system, open the valve of water supply, to start spray of water.</p>	<p>Rescue the trapped / injured person and shift them for first aid etc.</p> <p>Remove the extra persons from the site</p>	<p>Remove the inflammable / combustible materials / containers from the site surroundings</p> <p>Bring extra fire fighting materials i.e. Fire extinguishers, Sand buckets, Foam trolleys, Foam cans, etc. to the site if required.</p>

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Gate No.01

Gate No.02

459



Bala
nce

Assembly
point-01

Gate No.-03

Gate No.-05

OFF SITE EMERGENCY MANAGEMENT PLAN

for



CRYSTAL CROP PROTECTION PVT LTD.

Village Nathupur, District Sonapat

State:- Haryana

Prepared by
M/s PERFECT ENVIRO SOLUTIONS PVT. LTD

5th Floor, NN Mall, Mangalam Palace

Sector 3, Rohini, New Delhi

Email: info@perfectgroup.com

Phone No.: 011-49281360

TABLE OF CONTENTS

1. INTRODUCTION 3

 1.1 CAUSE OF OFF-SITE EMERGENCY 4

2. VULNERABILITY ANALYSIS 5

3. PREVENTIVE MEASURES 6

 3.1 DURING TRANSPORTATION 6

 3.2 DURING STORAGE AND HANDLING 6

 3.3 EMERGENCY RESPONSE PROCEDURE 7

 3.4 ROLES AND RESPONSIBILITIES OF EXTERNAL AGENCIES 9

 3.5 RECOVERY PROCEDURE 10

4. EMERGENCY CONTROL TEAM 10

 4.1 KEY PERSONNEL 10

5. OCCUPATIONAL HEALTH AND SAFETY 12

 5.1 SAFETY IN WORK ENVIRONMENT FOR WORKER HEALTH **ERROR! BOOKMARK NOT DEFINED.**

 5.1 WORKER HEALTH CHECK-UP PLAN **ERROR! BOOKMARK NOT DEFINED.**

 5.2 SAFETY, HEALTH AND ENVIRONMENTAL (SHE) MANAGEMENT PLAN 13

1. Introduction

If an accident takes place in an industry/ unit & its impacts are felt outside its premises, the situation is called an “Offsite Emergency”. To meet such Emergencies, an Off-site Emergency Plan is required to be prepared.

Crystal Phosphates. Ltd was established in 1997 at village Nathupur in Sonapat (Haryana). Crystal engages in the technical manufacturing, formulation and marketing of the following classes of agrochemical products

- Insecticides
- Fungicides
- Herbicides
- Plant Growth Regulators

The company was originally Crystal Phosphate and was amalgamated into Crystal Crop Protection Pvt. Ltd. and is part of the Crystal Group. The products manufactured in the Nathupur plant are mostly herbicides, insecticides and fungicides. The plant is currently having technical pesticide production of 21 MTPD along with formulation of 90 MTPD.

The existing plant at Nathupur mainly manufactures technical grade pesticides, herbicides and insecticides along with formulation. The project has been granted EC by MoEF&CC on 23.05.2012 by letter no. F. No. J-11011/120/2011-IA-II (I) (attached as Annexure III) to M/s Crystal Phosphate Limited for “Expansion of Pesticide Formulation plant (90 MTPD) by installing Pesticide Manufacturing unit (21 MTPD)” for production of 21 MTPD of pesticides and 16 products. As M/s Crystal Phosphates has been amalgamated into Crystal Crop Protection Pvt Ltd. The project is pesticide manufacturing unit, thus as per G.O.I EIA Notification dated 14/09/2006, it falls under the category A of the schedule 5(b). The products manufactured by Crystal Crop Protection are used as pesticides, herbicides, insecticides and fungicides.

It would be apt to reiterate that our country loses thousands of tons of agriculture produce due to pest, insects, weeds and other diseases. Manufacturing of pesticides, insecticides and herbicides etc. will reduce the losses of agricultural produce. It is obvious that the benefit will begin from home that is surrounding of

the plant. It may be noted that this region is fertile and contributes handsomely to the agricultural production.

After procuring 30,000 Metric tons of technical grade chemicals annually from the domestic and international markets, Crystal markets its finished products in over 22 states of the country via 23 branch offices. The products are also exported to more than 10 countries in Europe, Africa & Asia. Moreover, Crystal also supplies to a host of major pesticide companies that are instrumental in defining the wide as well as global presence of its products. The marketing network of the company will percolate its benefit throughout the country.

The chemical products manufactured by Crystal Crop Protection are used for enhancing agricultural productivity. Due to demand of the market for new products because of lower costs, better efficiency, environmental impacts etc. the plant has decided to modify its production and add more products to its product mix in environmental clearance.

1.1 Cause of off-site emergency

In an industry using hazardous chemicals, the chemical storage room, chemical handling area & transportation of the chemicals may cause off- site emergency to occur.

1.2 Areas in Vicinity

The areas in extreme vicinity to the industrial unit which may have an impact of Off- site Emergency are given in the table below:

Facility in the East of Project Boundary	Cold Store, possible threat of fire but effect on us is negligible.
Facility in the North of Project Boundary	Nathupur village, no threat identified.
Facility in the West of Project Boundary	M/S Jain Plastic, possible threat of fire.
Facility in the South of Project Boundary	Open Land no threat.

List of Nearby Villages in 1km Radius:- Nathupur Village.

List of Industries in 1km Radius:- Jai Shree Rasayan Udyog Ltd., APL Ltd, Jain Plastic, ARB Bearing ,

Nearest Highway Distance and width of Approach Road:-

Nearest Highway is at a distance of 1.2 Km from the site and approach road in 22' wide.

2. Vulnerability Analysis

The vulnerable analysis is done for all the hazards that may cause offsite emergency as given below:

Activity	Hazard	Severity (1-5)	Likelihood (1-5)	Severity x likelihood (1-25) (1 – Hazard With Least Concern & 16 - Hazard With Highest Concern)	Vulnerability
Chemical Transportation	Spillage/ leakage	4	4	16	Approximately 50 m But dangerous if enters any water body, as it may travel distances.
	Fire/ Explosion	5	2	10	Approximately 250 m
	Accident Relating to Transportation	4	4	16	Approximately 20 m
Chemical Storage & Handling	Spillage/ leakage	5	4	20	Within the storage room.
	Fire/ Explosion	5	2	8	Approximately 250 m
	Accident	5	5	16	Storage area of chemicals. Process Area Nearby Areas

3. Preventive Measures

3.1 During Transportation

Following measures shall be adopted to ensure safe transportation:

- Utmost care shall be taken while transporting chemicals to and fro from factory via barrels, tankers, bags and bulk containers. The transportation of the raw material, chemicals & products shall be done in Leak Proof way.
- Cushion shall be provided to the vulnerable materials to prevent chemical container breakage.
- Safety data sheets shall be kept with consignments & Labelling shall be done on containers/bag/cartoon box used for transportation of the chemicals/Product.
- A sheet listing the materials being transported shall be available in the vehicle and the emergency phone numbers shall also be listed.
- Workers/ driver shall be trained for MSDS & handling of these chemicals.
- Proper First Aid facility shall be provided within the transportation vehicle in case of any accidental release.
- The shipping paper of vehicles used for transportation of hazardous chemicals should be proper & vehicles shall not be overloaded.

The tankers/ containers used for major chemicals transportation are as per norms and with trained personnel and the charging booths are covered to ensure that no chemical is leaked/ spilled and avoid VOC exposure to workers and nearby persons onsite.

3.2 During Storage and Handling

- Based on the physical, thermal, chemical and biological properties available from the material safety data sheets (MSDS) of the various substances handled in the proposed project, the hazardous substances are identified.
- To prevent and control risk and damage, all the raw material are stored in leak proof tanks and containers at secured and contained location with proper safety measures. MSDS is displayed at all the prominent sites.

- Handling is being done as per NIOSH guidelines. Secondary containment and bund wall are provided to contain the accidental spillage of chemical in order to prevent contamination of water bodies near the chemical storage.

3.3 Emergency Response Procedure

Under the 'Manufacture, Storage and Import of Hazardous Chemicals Rules' preparation of 'Off-site Emergency Plan' is covered in Rule No.14. The duty of preparing and keeping up to date the 'Off-site Emergency Plan' as per this rule is placed on the District Emergency Authority. Also, occupiers are charged with the responsibility of providing the above authority with such information, relating to the industrial activity under their control, as they may require for preparing the off-site emergency plan.

As per the rules, the main component of the Off-Site Emergency Plan is coordination with the District Authority. The District Authority (i.e. District Collector, Factory Inspector etc.) in conjunction with the company & nearby industries under mutual aid scheme and relevant emergency services should have an off-site emergency plan considering the following:

- Incidents at the site including fires and/or explosions would likely cause concern among local population. Although, the unit does not fall in residential area & does not have any residential premises in the vicinity, the people will be advised to stay away from the area, and relevant actions shall be followed.
- In addition to company's own Emergency control center (Incident Controller Phone No:0130221986-89 EXT: 2112), the following "local" external agencies will also be involved in the formulation of procedures for off-site incidents and in response to any incident.

Authority (in HSI/DC)	Contact no.
District Administration	01302221590
Police	0130-2371131
Fire services	Sonipat 0130-2242889 Narela 011-27761904
Electricity Authority	9315609319
Hospital/ Ambulance	Trauma Care 1033 Param Nursing Home 130-2371165

	CIVIL HOSPITAL Sonipat-130-2231931
--	------------------------------------

Other external agencies that will also be involved in response to any incident are:

- Traffic Police;
- Fire services available with nearby industries;
- Civil Authority;
- Factory Inspector;
- State Pollution Control Board;
- Central Pollution Control Board; etc.
- Rapport liaising system with the above mentioned agencies shall be developed for better coordination to deal with any emergency.
- The following aspects shall be addressed in any detailed response to an off-site incident:
 - Organization: details of command structure, coordination arrangement, implementation procedures, emergency control centers. The organizational chart to deal with the emergencies (onsite & off site) is given ahead.
 - Communication: identification of personnel involved, communication center, lists of telephone numbers (as given above) etc.
 - Specialist Emergency Equipment: details of availability & location of heavy lifting gear bulldozers, specialized firefighting equipment;
 - Specialist Technical Knowledge: details of organization or individuals whom it may be necessary to call e.g. for specialized chemical knowledge, impact knowledge etc.;
 - Mutual Aid Scheme: details of companies in this scheme and available facilities with them & their phone nos.;
 - Meteorological Information Sources: arrangements for obtaining details of weather conditions prevailing and weather forecast on regular basis;
 - Humanitarian Arrangements: details of provisions for transport, evacuation routes and centers, food, treatment of injured etc.;
 - Public Information: arrangements for dealing with the media, informing relatives of employees and local population;
 - Incident Assessment: arrangements for collecting information on incident causes and reviewing the efficiency and effectiveness of all aspects of the emergency plan;
- Efficient off-site incident planning also involves interaction on regular basis among various organizations. To ensure that every procedure put in place will run efficiently and effectively, exercise (mock drills) involving all the relevant organizations will be carried out. These will be monitored and assessed with procedures updated to reflect knowledge gained;

3.4 Roles and responsibilities of external agencies

The roles of the various parties that may be involved in the implementation of an off-site plan are described below:

A) ROLE OF THE POLICE

- Protecting life and property and controlling traffic movements.
- Controlling bystanders, evacuating the public, identifying the dead and dealing with casualties and informing relatives of dead or injured.

B) ROLE OF THE FIRE AUTHORITIES

- The control of a fire is normally the responsibility of the senior fire brigade officer who would take over the handling of the fire from the site incident controller on arrival at the site.
- Fire authorities having major hazard works in their area should have familiarized themselves with the location on site of all stores of flammable materials, water and foam supply points and fire-fighting equipment.

C) ROLE OF THE HEALTH AUTHORITIES

- Health authorities, including doctors, surgeons, hospitals, ambulances and so on, have a vital part to play following a major accident and they should form an integral part of any emergency plan.

D) ROLES OF THE GOVERNMENT SAFETY AUTHORITY

- In the event of an accident, local arrangements regarding the role of the factory inspector will apply.
- In the aftermath, factory inspectors may wish to ensure that the affected areas are rehabilitated safely.

Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 prescribes for the constitution of the State Crisis Group as apex body at the State Level to deal with major chemical accidents and to provide expert guidance for handling major chemical accidents and for the constitution of District and Local Crisis Groups.

A. Functions of the State Crisis Group

- i. Review all district off-site emergency plans in the State with a view to examine its adequacy in accordance with the Manufacture, Storage and Import of Hazardous Chemical, Rules and forward a report to the Central Crisis Group once in three months;
- ii. Assist the State Government in the planning, preparedness and mitigation of major chemical accidents at a site in the State;

- iii. Continuously monitor the post-accident situation arising out of a major chemical accident in the State and forward a report to the Central Crisis Group;
- iv. Review the progress report submitted by the District Crisis Groups;

B. Functions of the District Crisis Group

- i. Assist the preparation of the district off-site emergency plan;
- ii. Review all the on-site emergency plans prepared by the occupier of Major Accident Hazards installation for the preparation of the district off-site emergency plan;
- iii. Assist the district administration in the management of chemical accidents at a site lying within the district;
- iv. Ensure continuous information flow from the district to the Centre and State Crisis Group regarding accident situation and mitigation efforts;
- v. Forward a report of the chemical accident to the State Crisis Group; and Conduct mock-drill of a chemical accident at a site each year.

C. Functions of the Local Crisis Group

- i. Prepare local emergency plan for the industrial pocket;
- ii. Ensure dovetailing of the local emergency plan with the district off-site emergency plan;
- iii. Train personnel involved in chemical accident management;
- iv. Conduct at least one full scale mock-drill of a chemical accident at a site every six months and forward a report to the District Crisis Group; and
- v. Respond to all public inquiries on the subject.

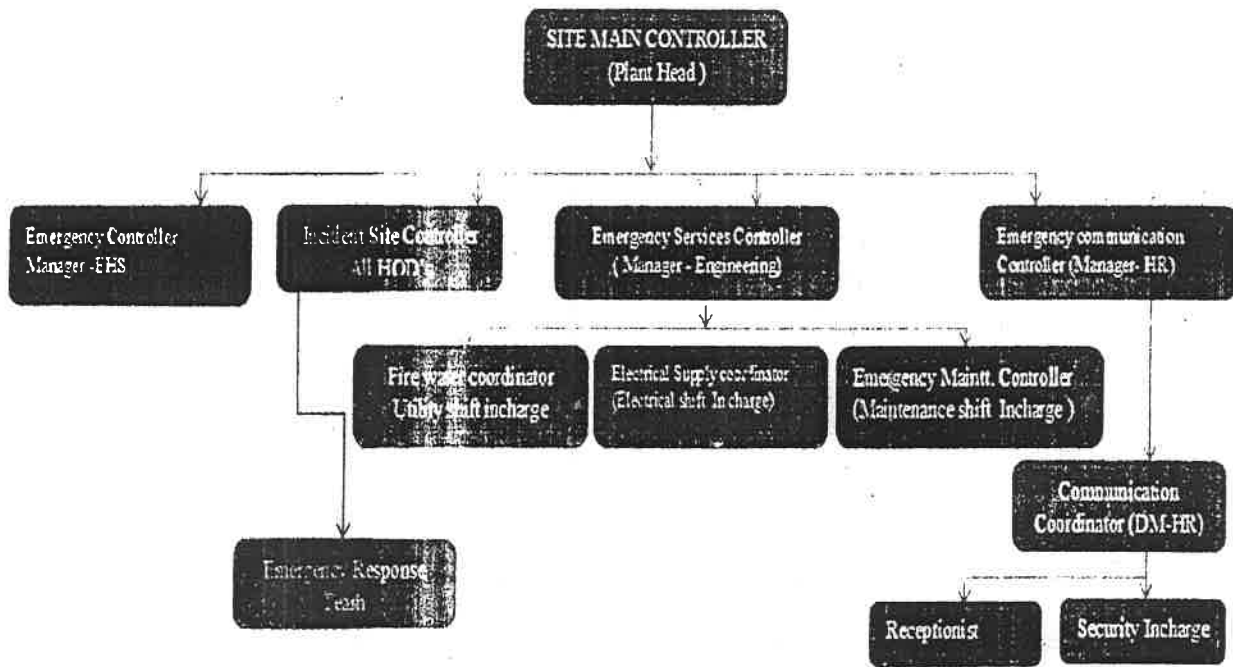
3.5 Recovery Procedure

The recovery procedure will depend on the type of emergency. Recovery procedure shall be followed by engineering section to restore the essential services.

4. Emergency Control Team

4.1 Key Personnel

The Key Personnel involved in Emergency (Onsite & Offsite) are given below:



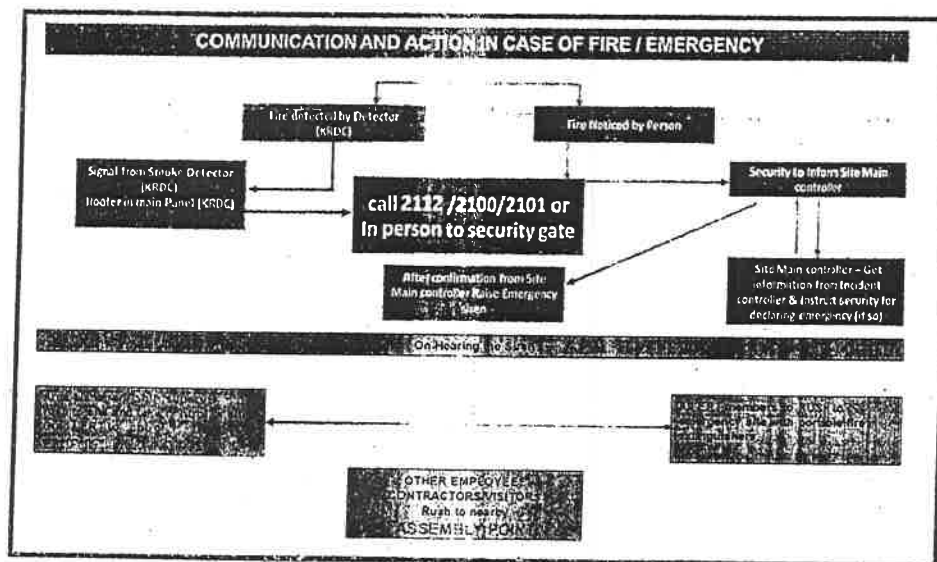
Emergency Response Team (ERT) Members

SR No	Emp. Code	Name	Department	Role
1		Ajay Jha	Maintenance	ESC-M
2		Sanjay	Maintenance	ESC-M
3		Kamal Dev	Maintenance	ESC-M
4		Yogesh	Maintenance	ESC-M
5		Vishavnath	Maintenance	ESC-M
6		Jeevan Sharma	Maintenance	ESC -M
7		Nand Lal	Maintenance	ESC-M
8		Anil	Maintenance	ESC-M
9		Daulat Ram	Maintenance	ESC-M
10		Vishram	Maintenance	ESC-M
11		Satbir	Maintenance	ESC-M
12		Om Prakash	Maintenance	ESC-M
13		Pradeep Kumar Shukla	Maintenance	ESC-M
14		Pradeep Kumar	Maintenance	ESC-M
15		Neeraj Sharma	Maintenance	ESC-M
16		Sandeep Saini	Electrician	ESC-E
17		Mainpal	Electrician	ESC-E
18		Vikrant Rathi	Electrician	ESC-E
19		Shivpujan	Electrician	ESC-E
20		Surendra	Electrician	ESC-E
21		Hasmat Ali	Electrician	ESC-E
22		Vineet	Electrician	ESC-E
23		Satish	Electrician	ESC-E

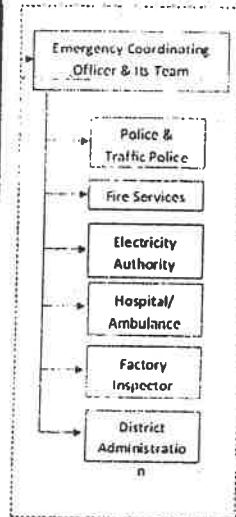
24		Raj Pal Singh	Utility	ESC-U
25		Sandeep Sharma	Utility	ESC-U
26		Prakash	Utility	ESC-U

First Aid provider

SR No	Emp. Code	Name	Department	Role
1	1794	Abhishek Rana	Production	First Aider
2		Gaurav Pandey	KRDC	First Aider
3		Ramesh	Production	First Aider
4		Sanjeev	Production	First Aider
5		Amardeep	LAB	First Aider
6		Amit Kumar	LAB	First Aider
7		Manoj Shekhar	LAB	First Aider
8		Arun Sharma	LAB	First Aider
9		Sarvan Kumar	LAB	First Aider
10		Rajiv Kumar	LAB	First Aider
11		Gaurav	LAB	First Aider
12		Sultan Ali	LAB	First Aider



OFF SITE EMERGENCY PLANNING



5. Occupational Health and Safety

Action plan for the implementation of OHS standards as per OSHAS /USEPA /NIOSH /ACGIH shall be followed .

465

5.1 Personal Protective Equipment

The level of risk of exposure to particular chemical will dictate the appropriate level of personal protective equipment (PPE) required, provide wearing side shielded safety spectacles and appropriate gloves, footwear, face shields, respiratory protection, fire-resistant clothing, or chemical suits.

- **Respirators:** A complete respiratory protection program has been instituted. It includes evaluations of workers' abilities to perform tasks while wearing CPC, Regular training of personnel, Fit testing, Periodic environmental monitoring, Regular maintenance, inspection, and cleaning.
- **Clothing:** Workers wear appropriate protective clothing to prevent skin exposure.
- **Skin Protection:** Workers wear solvent resistant gloves and clothing.
- **Eye Protection:** Workers wear splash proof chemical goggles and face shield when working with liquid, unless full face piece respiratory protection is worn.
- **Eyewash facility and a safety shower:** Common work places are equipped with Eyewash facility and a safety shower.

5.2 Safety, Health and Environmental (SHE) Management Plan

The company has a written policy for the safety, Health and Environment Management. Through this policy, the company management commits itself to the following objectives.


- Meet all the relevant laws, regulations and international agreements
- Conduct its activities safely, protecting the health of all employees and the products users
- Reduce the adverse environmental impacts to a practicable minimum at an acceptable cost to the company and society
- Encourage continuous improvement in safety, health and environment performance

466

COMPANY POLICY ON ENVIRONMENT/ SOCIAL/ HEALTH & SAFETY**ENVIRONMENT, HEALTH & SAFETY (EHS) POLICY**

Crystal Crop Protection Pvt. Ltd, as a responsible manufacturer of Pesticides, Insecticides, Fungicides, Weedicides and plants growth micronutrients, is committed to take adequate precautions related to Environment, Health and Safety in developing, manufacturing, storing, handling, transportation and distribution of all our products. It is our policy to provide a workplace free from accidents, injuries and exposure to hazardous chemicals.

- We shall actively manage EHS as an integral part of our businesses, operations and practices.
- We shall comply with the applicable laws and the internal and external EHS requirements.
- We shall strive to minimize the impact of our operations and business practices on environment.
- We shall maintain a safe work environment for our employees including contractual employees and provide updated information and training thereof.
- We shall monitor our EHS performance and measure the progress by specific indicators and improve our practices, processes & products accordingly.
- We shall periodically audit our operations as well as business and management practices at all our sites with regard to EHS performance and compliance & its continual improvement.
- We shall work always for the safety of all people at workplace/site and protection of our Environment.


A.K.Singh Gangwar
(VP-Works)



Crystal Crop Protection Pvt. Ltd.
(Merged Entity of Crystal Phosphates Ltd.)
An ISO 9001 : 2008 & 14001 : 2004 Certified Company
V.P.O. Nalhapur, Sonapat-131028 (HR)
Phone : 0130-2219269, TeL Fax : 0130-2219266
Tel : +91-11-2700 8800, 2711 8881/2 Fax : +91-11-2711 8885
www.crystalcropprotection.com

PUBLIC LIABILITY ACT POLICY

POLICY SCHEDULE

Agent/Broker Name - Edelweiss Insurance Brokers Limited

Agent/Broker License Code - DB 288/04 . Agent/Broker Contact No. 022 66212600 (mobile or landline)



Attaching to and forming part of Policy No. 0302006435

Name of Insured Owner: M/s CRYSTAL CROP PROTECTION PVT LTD

Business: Manufacturer of Pesticides, Fertilizers, Plant Growth Regulators, Micro Nutrients and

Address: H-55, chemicals

Wazirpur Industrial Area,

New Delhi, 110052

Delhi

Territorial limits: ANYWHERE IN INDIA

Policy Period: From : 13/02/2017 12:00 AM/ PM

To Midnight of: 12/02/2018 12:00 AM/ PM

Indemnity limit: Rs. 5,00,00,000 in respect of any one accident and not exceeding 3 times thereof in the aggregate during the policy period.

Service Tax Registration No.: AABCT351BQST004

J&K GST Registration No.: 01231052070

Premium	:	Rs.	12,558.00/-
Service Tax @ 15% (Incl. SB-cess & K&K Cess)	:	Rs.	1,883.70/-
GST @ %	:	Rs.	/-

Contribution to the Environment Relief Fund: Rs. 12,558

Date of Proposal and declaration: 24/02/2017

In witness whereof the undersigned being duly authorized by the company and on behalf of the company has hereto set his hand at New Delhi on 13/02/2017.

The stamp duty of Rs.0.25/- paid in cash or demand draft or by pay order vide Receipt/Challan no: MH005878414201617E dated the 10/11/2016

For TATA AIG General Insurance Company Ltd.

Atri Chakraborty
National Head - Operations & Systems

Date : 13/02/2017

Place : Mumbai

Address of Policy Issuing Office:
Tata AIG General Insurance Company Ltd.

A-501, 5th Floor, Bldg No. 4, Infinity Park,

Dindoshi, Malad (East),

Mumbai 400097

468

ANNEXURE -13



HARYANA STATE POLLUTION CONTROL BOARD
Star Complex, Opp. General Hospital,
Delhi Road, Sonapat Ph. 0130-2236119(O)
E-mail: hspcb.pkl@sify.com

No. HSPCB/Consent/ : 313100917SONCTO3564280

Dated:24/03/2017

To
 CRYSTAL CROP PROTECTION PVT LTD TECHNICAL PLANT
 VILLAGE NATHUPUR, DISTT. SONEPAT

Subject: Grant of consent to Establish/operate to M/s CRYSTAL CROP PROTECTION PVT LTD TECHNICAL PLANT

Please refer to your application received on dated 2016-12-23 in regional office Sonipat.

With reference to your above application for consent to operate, M/s CRYSTAL CROP PROTECTION PVT LTD TECHNICAL PLANT is here by granted consent as per following specification/Terms and conditions.

Consent Under	BOTH/HWM
Period of consent	01/04/2017 - 30/09/2019
Industry Type	Pesticides (technical) (excluding formulation)
Category	RED
Investment	
1. Land (Rs.in LAKHS)	96
2. Building (Rs.in LAKHS)	271
Quantity of effluent	
1. Trade	15.0 KL/Day
2. Domestic	2.0 KL/Day
Number of outlets	2.0
Mode of discharge	
1. Domestic	septic tank
2. Trade	ETP
Domestic Effluent Parameters	
1. NA	micro gram/m3
Trade Effluent Parameters	
1. BOD	26 micro gram/m3
2. COD	118.8 micro gram/m3
3. TSS	26 micro gram/m3
Number of stacks	3
Height of stack	
1. Boiler stack	30 meter
2. Process Stack	30 meter
3. Incinerator stack	30 meter

Emission parameters	
1. SPM	90.45 Lts./Day
Product Details	
1. CYPERME THRIN	1 Metric Tonnes/Day
2. PRETILACHLOR BUT ACHLORTECH	3.4 Metric Tonnes/Day
3. DETHYLES TERTECH	2 Metric Tonnes/Day
4. METRIBYZIN TECH	0.134 Metric Tonnes/Day
5. NEONICOTINAMIDES	1 Metric Tonnes/Day
6. ACEPHATE TECHNICAL	1.5 Metric Tonnes/Day
7. CLODIN OF OPROPARGYL TECHNICAL	1.5 Metric Tonnes/Day
8. TRICYCOAZOLES	0.5 Metric Tonnes/Day
9. COPPERPXY CHLORIDE TECHNICAL	0.5 Metric Tonnes/Day
10. SYNTHETIC PYRETHRIDELAMBD E CYHALOTHRIN	2 Metric Tonnes/Day
11. PROPICON AZOLES	2 Metric Tonnes/Day
12. CLODINONOP PROPARGYL TECHNICAL	1.5 Metric Tonnes/Day
13. SULFOSULFURON TECH/METSULHYLF OSUL MET	0.067 Metric Tonnes/Day
14. GLYPHOSATE TECH	5 Metric Tonnes/Day
15. ETHEPHONE TECHNICALS	0.7 Metric Tonnes/Day
Capacity of boiler	
1. Wood fired boiler	Ton/hr
Type of Furnace	
1. NA	meter
Type of Fuel	
1. Diesel	100 KL/Day
2. WOOD	4000 KG/Day

Terms and conditions

1. The applicants shall maintain good house keeping both within factory and in the premises. All hose pipelines valves, storage tanks etc. shall be leak proof. In plant allowable pollutants levels, if specified by State Board should be met strictly.

2. The applicant/company shall comply with and carry out directive/orders issued by the Board in this consent order at all subsequent times without negligence of his /its part. The applicant/company shall be liable for such legal action against him as per provision of the law/act in case of violation of any order/directives. Issued at any time and or non compliance of the terms and conditions of his consent order.
3. The applicant shall make an application for grant of consent at least 90 days before the date of expiry of this consent.
4. Necessary fee as prescribed for obtaining renewal consent shall be paid by the applicant alongwith the consent application.
5. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard vary all or such condition and there upon the applicant shall be bound to comply with the conditions so varied.
6. Nothing in this consent shall be deemed to preclude the institution of any legal action nor relieve the applicant from any responsibility, liabilities or penalties to which the applicant is or may be subject.
7. The industry shall provide adequate arrangement for fighting the accidental leakages, discharge of any pollutants gas/liquids from the vessels, mechanical equipment etc. which are likely to cause environment pollution.
8. The consent being issued by the Board as above doesn't imply that unit performance conforms to law as required. The consent is being issued provisionally only with a view to accommodate the unit to provide it an opportunity to modify its operation immediately so as bring them in conformity with the law of the land.
9. The industry shall comply noise pollution (Regulation and control) Rules, 2000.
10. The industry shall comply all the direction/Rules/Instructions as may be issued by the MOEF/CPCB/HSPCB from time to time.
11. The industry shall ensure that various characteristics of the effluents remain within the tolerance limits as specified in EPA Standard and as amended from time to time and at no time the concentration of any characteristics should exceed these limits for discharge.
12. The industry would immediately submit the revised application to the Board in the event of any change in the raw material in process, mode of treatment/discharge of effluent. In case of change of process at any stage during the consent period, the industry shall submit fresh consent application alongwith the consent to operate fee, if found due, which may be on any account and that shall be paid by the industry and the industry would immediately submit the consent application to the Board in the event of any change during the year in the raw material, quantity, quality of the effluent, mode of discharge, treatment facilities etc.
13. The officer/official of the Board shall reserve the right to access for the inspection of the industry in connection with the various process and the treatment facilities. The consent to operate is subject to review by the Board at any time.
14. Permissible limits for any pollutants mentioned in the consent to operate order should not exceed the concentration permitted in the effluent by the Board.
15. The industry shall pay the balance fee, in case it is found due from the industry at any time later on.
16. If the industry fails to adhere to any of the conditions of this consent to operate order, the consent to operate so granted shall automatically lapse.



471

HARAYANA STATE POLLUTION CONTROL BOARD
Star Complex, Opp. General Hospital, Delhi Road, Sonapat Ph. 0130-
2236119(O)
E-mail: hspcb.pkl@sify.com

No. HSPCB/Consent/ : 313100917SONCTOHWM3564280

Dated:24/03/2017

To

M/s. CRYSTAL CROP PROTECTION PVT LTD TECHNICAL PLANT
VILLAGE NATHUPUR, DISTT. SONEPAT

**Sub: Authorization for operating a facility for collection, reception, treatment,
storage, transportation and disposal of hazardous wastes from 01/04/2017 to
30/09/2019**

Please refer to your authorisation application dated 2016-12-23 received in the board on the subject cited above.

M/s CRYSTAL CROP PROTECTION PVT LTD TECHNICAL PLANT situated at above address is hereby granted an authorization to operate a facility for collection, reception, treatment, storage, Transportation and disposal of hazardous wastes on the premises of the unit. The authorization shall be in force for a period as mentioned in the subject.

The authorization is subjected to the conditions stated below and such conditions as may be specified in the rules for the time being in force under the Environment (protection) Act, 1986.

TERMS AND CONDITIONS OF AUTHORIZATION

1. The authorization shall comply with the provisions of the Environment (protection) Act, 1986 and the rules made thereunder.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the State Pollution Control Board.
3. The person authorized shall not rent, lend, sell transfer or otherwise transport the hazardous wastes without obtaining prior permission of the State Pollution control Board.
4. An application for the renewal of an authorization shall be made as laid down in rule 5(6)(ii).
5. The unit should have the necessary facilities for collection, reception, treatment, Transport and disposal of such wastes under the rule. In case of deadly toxic wastes such as Cyanide, Chromium, Nickel, Zinc, etc., the unit shall make arrangement for the pre-treatment before dumping it in the disposal site so that the toxic element does not leach down to pollute the underground water resources.
6. The collection, reception and transportation of hazardous waste shall be carried out by the authorized person/personnel, fully trained for this purpose.
7. Any unauthorized change in personnel, equipment as working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorization.
8. The unit shall ensure the proper usage of safety measures such as providing of gloves, gum boots, face masks, goggles etc to the workers engaged in the handling of hazardous waste.
9. The authorization so granted shall be cancelled or suspended by the Board if the unit fails to comply with any condition of grant of authorization under these rules.
10. Used containers should be pre-cleaned by neutralizing and cleaning agents/solvents/chemicals.
11. The occupier shall not sell or transfer such waste on payment or without payment to any unauthorized people who do not hold any authorization.
12. The unit shall not dispose any Hazardous waste at any other Public Place.
13. Unit will maintain its non-leachate pucca storage site properly.
14. The unit will comply with provisions of all Environmental laws including HWTM Rules etc. and comply with the directions issued by the Board from time to time.

Specific Conditions :

Other Conditions :

1. 1. The unit will comply with provision of all applicable Acts/Rules/Direction of the Board. 2. Unit will obtain prior permission from the board before installing any polluting process. 3. The unit will run and maintain its APCM and ETP regularly and properly & will keep all the parameters within limit.

Regional Officer

Haryana State Pollution Control Board
Star Complex Building Opp. Civil Hospital, Delhi, Road, Sonapat.

No. HSPCB/SR/2017/ 1668 — 1670

Dated 26.05.2017

To

M/s Crystal Crop. Protection Pvt. Ltd. (Unit-II)
(Tech. Plant), Vill. Nathupur, Sonapat.

Sub : Show Cause Notice for closure u/s 33-A of The Water (Prevention & Control of Pollution) Act, 1974, u/s 31-A of The Air (Prevention & Control of Pollution) Act, 1981 & under section 5 of The E(P) Act, 1986.

Whereas, your unit was inspected by the team of CPCB, HSPCB & Industrial Safety & Health on 23.05.2017 as per the Hon'ble NGT Orders. During the inspection the following shortcomings were found :-

1. Separate closed area has not been provided for the storage of whole of the raw material i.e. 2-Chloro-5-(chloromethyl) pyridine, solvent drums and other chemicals. Most of the drums/barrels are being kept in open atmosphere directly in the radiations of the Sun and the floor on which Drums are kept is not impervious surface and which ultimately can cause ground water contamination on the event of spillage/rain/leakage.
2. The storage system of the product before drying process is not proper. The drums are kept on the floor in the open condition due to which in the event of storm or weather having high wind velocity, the powdered pesticide may spread to the nearby ambient environment and may cause hazards to the living beings.
3. The drums/barrels are stored without proper Labeling on them regarding physical, chemical and toxicological data. Hence violated the Section 17 (4) of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.
4. Hazardous chemicals and solvents were stored at non-designated and open area. Unit has not installed continuous monitoring system for VOCs at required places/areas as per by Ministry of Environment and Forests clearance condition. The unit has no measures to detect the increase in Volatile Organic Compounds that are generally highly flammable in the solvent storage area and since the Hazardous Chemicals were also stored near the Solvents. Any accidental fire may lead to emission and spread of Hazardous fumes to the nearby factories and residential colonies as well as the Ambient Environment.
5. The unit had not informed to any authority specified under the said rules regarding Import of Hazardous Chemicals. Under section 18 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, the importer has to inform the prescribed information to Central Pollution Control Board or State Pollution Control Board at least 30 days before the import of Hazardous Chemicals. Hence, violated The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.
6. The unit was found diluting the treated effluent with reject of Borewell R.O Plant. The unit informed that treated effluent is mixed with RO reject of bore well and it is being used for irrigation outside the premises of the unit. Hence the unit was observed violating Specific condition No. A (vii) of the Environmental Clearance accorded by Ministry of Environment and Forests; which specifies that the unit shall adopt Zero Liquid Discharge.
7. As per Rule 15 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, The occupier shall take appropriate steps to inform persons outside the site either directly or through District Emergency Authority who are likely to be in an area which may be affected by a major accident about the nature of the major accident hazard; and the safety measures and the "Do's" and "Don'ts" which should be adopted in the event of a major accident. The unit during inspection could not produce any documentary evidence that it follows the practice of informing any concerned authority about any such possible accidental hazards. Hence, violated The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.

Contd:--P/2

8. Unit is recovering the solvents/ mixed solvents for their industrial use but has not obtained Authorization from the Board for utilization of Hazardous Waste under Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
9. Unit is utilizing their drums/barrels in their process after washing but has not obtained Authorization from the Board for utilization of Hazardous Waste under Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

In view of the above, you are hereby show caused for 15 days, as to why Closure Action under section 33-A of The Water (Prevention & Control of Pollution) Act, 1974, u/s 31-A of The Air (Prevention & Control of Pollution) Act, 1981 & under section 5 of The E(P) Act, 1986, not to be initiated against the unit.

In case you fail to reply within the above mentioned time period, it will be presumed that you have nothing to say in this regard and accept the status as mentioned above and Closure action will be taken against the unit under section 33-A of The Water (Prevention & Control of Pollution) Act, 1974, u/s 31-A of The Air (Prevention & Control of Pollution) Act, 1981 & under section 5 of The E(P) Act, 1986.


Regional Officer,
Sonepat Region.

Endst. No. HSPCB/SR/2017/

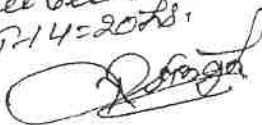
Dated:

A copy of the above is forwarded to the following:-

1. The Chairman, Haryana State Pollution Control Board, Panchkuila for information and further necessary action.
2. The Deputy Commissioner, Sonapat for kind information please.


Regional Officer,
Sonepat Region.

o/e

Received on 09/27/2017
09/14/2018




Show Cause Notice

ANNEXURE - 15 475

Chief Inspector of Factories, Haryana, Chandigarh	To M/s Crystal Crop Protection Private Limited, Vill. & P.O. Nathupur, District Sonipat-131001, Haryana
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No. 3488

Dated: - 25/5/17

Subject: - Show Cause notice to M/s Crystal Crop Protection Private Limited, Vill. & P.O. Nathupur, District, Sonipat-131001, Haryana for inspection under the Factories Act, 1948 dated 23.05.2017.

Your Factory was inspected by S/Sh. Surender Singh, Deputy Director, IS&H, Panipat, N S Maan, Assistant Director, IS &H, Chemical, Panipat and Vakeel Punia, Assistant Director, IS &H, Sonapat on dated 23.05.2017 in compliance of the order dated 15.05.2017 of the Hon'ble National Green Tribunal in Suo Moto Application number 290/2017 titled as Court on its own motion vs NCT Delhi. The copy of which is enclosed herewith. The violations observed in the inspection report need your immediate attention and if these are left unattended these may cause serious hazards to the safety and health of the working in your factory.

You as an occupier is being served with this notice under Factories Act, 1948 to show cause as to why legal action should not be taken against you for these violations. Your reply, if any, should reach the office of Chief Inspector of Factories, Haryana, 30 Bays Building, 1st Floor, Sector-17-C, Chandigarh, 160017 by 15.06.2017. You or your employee, duly authorized by you in writing, who is well conversant with the technical and non technical observations and have the power to commit on your behalf may appear before the Chief Inspector of Factories, Haryana for personal hearing alongwith the documents/proof of compliance as per the following, falling which it will be presumed that you have nothing to say in the matter and ex-parte decision will be taken: -


Date of hearing	22.06.2017
Time of hearing	11:00 A.M.
Place of hearing	30 Bays Building, 1 st Floor, Sec. 17-B, Chandigarh

No.

Dated:-

A copy is forwarded to given below for information & necessary action please.

1 The Chief inspector of Factories, Haryana, Chandigarh.


For Chief Inspector of Factories,
Haryana, Chandigarh

476



CENTRAL POLLUTION CONTROL BOARD
 Parivesh Bhawan, East Arjun Nagar, Delhi-110 032
WASTEWATER LABORATORY
ANALYSIS REPORT

NABL Accreditation : ISO/IEC : 17025 : 2005, Certificate No: T0643.

Annexure - 16

Source of sample : ETP's.
 Samples collected by : Mr. Asbir & Team.
 Date & time of sample receipt : Refer Column Given Below.
 Date of sample analysis : 24th to 26th May 2017
 Sample registration no. & date : Refer Column Given Below.
 Environmental conditions during sampling :
 Test method reference :
 Report sent to (Name & Address) : APHA/BIS.
 : Mr. Asbir.

Report No.: WWL/May/28/17
 Issue Date: 29/5/2017

S. No.	Sampling Point	Date & time of collection	Date & time of receipt	Reg. No. & Date	WWL Sample No.	pH	TSS	COD	TDS	NO ₃ -N
1.	C1	23/05/17	24/05/17	14473/WW-3/17	260	7.11	2491	59765	72944	BDL
2.	C2	-do-	-do-	-do-	261	10.70	04	16784	100	BDL
3.	C3	-do-	-do-	-do-	262	8.40	07	28	1708	BDL

Note: All the concentrations are expressed in mg/l except of pH and Conductivity (µmho/cm).

Statement:

1. The results relate only to the samples tested.
 2. The report shall not be reproduced except in full, without the written approval of the laboratory.
 3. The parameters in the report are under NABL Accreditation.
 4. * Not under NABL scope parameter.
- Test methods are mentioned on back side of this report.

Gargi Gurtu
 Analyst
 (Gargi Gurtu)
 Supervisor

[Signature]
 Supervisor

[Signature]
 Dr.P.K.Behera
 (I/C.Water Lab & Authorised Signatory)
 29/5/2017

DOC: CB/CL/QR/5.10/WWL - 03 Issue No.: 01 Amendment No.: 01 Issue Date: 17.09.2015 Amendment date : 27.07.2016 Page: 6

copy to Mr. Abhis Singh.

Addendum (Sample Analysis report) to the Report of Joint Inspection carried out as per Hon'ble National Green Tribunal order dated May 15, 2017 in the matter of Court on its own Motion Vs. NCT, Delhi & Ors. (Suo Moto Application No. 290 of 2017).

In compliance with the aforesaid order of the Hon'ble National Green Tribunal, inspection of M/s Crystal Crop Protection Private Limited, Haryana was jointly carried out by a team of officials from Central Pollution Control Board, Haryana State Pollution Control Board, Directorate of Industrial Safety & Health, Haryana on May 23, 2017.

Hon'ble National Green Tribunal in the said order had ordered that "The Joint Inspection Team shall also collect the samples of the substance and analyse the same in relation to its contents and parameters, if any."

Therefore, during above stated inspection, effluent and sludge samples were collected for the analytical estimation of 2-Chloro-5-(chloromethyl) pyridine (referred as the substance in the Hon'ble NGT order) by joint inspection team. The team also collected sample from the imported barrel of the 2-Chloro-5-(chloromethyl) pyridine.

The above stated three samples were analysed at Central Pollution Control Board for the estimation of the above stated chemical substance.

Concerned laboratory of Central Pollution Control Board had requested for time for providing analysis report due to procurement and scientific analytical reasons.

The concerned laboratory of Central Pollution Control Board has provided the analytical results of collected samples analysed for 2-Chloro-5-(chloromethyl) pyridine on 19 June, 2017. The copy of analysis report is enclosed as Annexure - 1 A.

1
22.06.2017

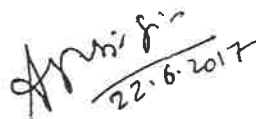
The analysis results are as follows:

S No.	Sample code	Sample Details	Observed Concentration of 2-Chloro-5-(chloromethyl) pyridine
1	CCPPL-1	Treated effluent sample	10.378 mg/L
2	CCPPL-CCMP (imported)	Sample collected from imported barrel	552 x 10 ³ mg/L
3	CCPPL-SL	ETP Sludge Sample	6.94 mg / Kg

Analysis results confirm that M/s Crystal Crop Protection Private Limited, Sonapat, Haryana is using 2-Chloro-5-(chloromethyl) pyridine in its pesticide production process. The joint inspection report has already been submitted. The above stated sample analysis report as addendum is hereby submitted.



Dev Prakash
Scientist – B
Central Pollution Control Board



Ashbir Singh
Scientist –C
Central Pollution Control Board



CENTRAL POLLUTION CONTROL BOARD
Parivesh Bhawan, East Arjun Nagar,
Delhi-110 032
National Reference Trace Organics Laboratory

2-chloro-5-(chloromethyl)pyridine Analysis Report

1. Report No. & issue date : NRTOL-CCMP-20170619_01
2. Sample matrix : Liquid & solid
3. Date & time of sample collection : 23/05/2017, at 5.30 PM
4. Samples collected by : Team of CPCB with Haryana S.P.C.B.
5. Date & time of sample receipt : 24/05/2017, 2.30PM
6. Date of sample analysis : 05/06/2017 to 19/06/2017
7. Sample registration No. & date : 14479/NRTOL-3/2K17
8. Test method reference : As per USEPA Methods for extraction (3510 for Liquid & 3540c for sludge) & Cleanup for Pesticides & Analysis by GC-MS.
9. Report sent to (Name & Address) : IPC-1, CPCB, Delhi.

Compound Name: 2-chloro-5-(chloromethyl)pyridine		
Sample code		
Concentration mg/l		Concentration mg/Kg
CCPPL-1	CCPPL- CCMP(imported)	CCPPL-SL
10.378	552x10 ³	6.94

Statement:

1. The results relate only to the samples tested.
2. The report shall not be reproduced except in full, without the written approval of the laboratory.

[Signature]
 19.6.17
 Analyst

[Signature]
 19/06/2017
 Supervisor

[Signature]
 19/06/17
 I/c NRTOL
 (Authorized Signatory)