

## FORM V

Environment Statement for the Financial Year ending 31st March 2012

### PART A

1. Name and address of the Owner/Occupier of the Industry operation or Process : Shri . K.B. S ANAND.  
MANAGING DIRECTOR AND CEO  
ASIAN PAINTS LIMITED  
PENTA DIVISION  
B5 - B10 SIPCOT INDUSTRIAL COMPLEX  
CUDDALORE 607 005.
2. Industry/Category Primary (STC Code) : Red / Large  
Secondary (STC Code) :
3. Production Capacity : **Consented Quantity:.**  
PENTA ERYTHRITOL 450 MT/MONTH  
SODIUM FORMATE 275 MT/MONTH  
FORMALDEHYDE 675 MT/MONTH
4. Year of establishment : 1986
5. Date of the last environmental statement submitted : 19<sup>th</sup> June 2011.

### PART-B

#### WATER AND RAW MATERIAL CONSUMPTION

|                              |   |         |
|------------------------------|---|---------|
| Water Consumption Cu.M/day   | : | 480.540 |
| Process Cu.M/day             | : | 19.610  |
| Cooling/Boiler feed Cu.M/day | : | 431.430 |
| Domestic Cu.M/day            | : | 29.501  |

| Name of products Process water consumption per product output |  |   |
|---|--|---|
|   | During the previous (2010-11)<br>financial year M <sup>3</sup> /MT | During the current (2011-12)<br>financial year m <sup>3</sup> /MT |
| Penta erythritol Note 1                                       | 30.179   | 32.905  |
| Sodium Formate Note 1   | 50.525   | 56.271  |
| Foarmaldehyde Note 1<br>(100%)                                | 27.898   | 30.198  |

Note1: The water consumption shown above is net of recovered water from Zero Liquid Discharge system.

**2.Raw Material Consumption :**

| Name of Raw Material   | Name of products                         | Consumption of Raw Material per unit of output (Tons/Ton) |   |
|------------------------|--|---|---|
|                        |  | During the previous financial year (2010-11)              | During the current financial year (2011-12) |
| a. FORMALDEHYDE (100%) | PENTAERYTHRITOL<br>AND<br>SODIUM FORMATE | 1.082   | 1.086                                       |
| b. ACETALDEHYDE        |  | 0.371   | 0.372                                       |
| c. CAUSTIC LYE (100%)  |  | 0.362   | 0.371                                       |
| d. METHANOL            |  | 1.272   | 1.223                                       |

**PART- C**

**Pollution discharged to environment/unit of output  
(Parameter as specified in the consent issued)**

| Pollutants | Quantity of pollutants discharged (mass/day) | Concentrations of pollutants in discharges (mass/volume) * (in ppm)                                     | Percentage of variation from prescribed standards with reasons |
|------------|--|---|--|
| a. WATER   | --<br>4.620<br>0<br>0<br>0<br>2.048<br>2.274 | pH 6.85<br>TDS 80<br>TSS 0<br>COD 0<br>BOD 0<br>Chlorides 36<br>Sulphates 39                            | NIL  |
| b. AIR     | 14.194<br>79.017<br>19.966                   | SPM 24.05<br>SO2 133.910<br>NOx 33.840<br>Annual average value of Stack emission analysis done by TNPCB | NIL  |

\* Averaged values of analysis done by APL laboratory on daily basis - (Based on Water cess annexure ROA) .  
Characteristics of water given above is recovered water from the Zero discharge system for re use.

## PART- D

### Hazardous Wastes

(as specified under Hazardous Wastes/Management and Handling Rules,1989) as amended in 2000

| Hazardous Wastes   | Total quantity in (Ltrs)                       |   |
|--|--|---|
|  | During the previous financial year (2010 - 11) | During the current financial year (2011 - 12) |
| a.From Process   |  |   |
| Used System oil  | 833 Liters                                     | 825 Liters                                    |
| Other Spent oil  | 230 Liters                                     | 99 Liters                                     |
| Spent Carbon .   | 0  | 0   |
| From Pollution Control Facilities <i>From ETP/MEE/ATFD</i> | 62.137 MT                                      | 63.759 MT                                     |

## PART-E

### Solid Wastes

|  | Total quantity                                    |  |
|--|---|--|
|  | During the previous financial year (MT) (2010-11) | During the current financial year (MT) (2011-12) |
| a . From Process / Ash from Boiler                       | 852.910 MT  | 983.640 MT                                       |
| b. From Pollution control facilities From ETP            | NIL   | NIL  |
| c. i. Quantity recycled or reutilized+ with in the unit. | NIL   | NIL  |
| ii. Sold   | NIL   | NIL  |
| iii Disposed / Ash from Boiler                           | 832.910 MT  | 946.460 MT                                       |

## PART-F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

| Sl. No. | PARAMETERS                                 | USED OILS          | WASTE OIL          |
|---------|--|--------------------|--------------------|
| 1       | Color ( Hazan units.)                      | Brown              | Dark Brown         |
| 2       | Water %                                    | BDL (DL: 0.05%)    | 1.00%              |
| 3       | Density (g/cc)                             | 0.8656 kg/l        | 0.8950 kg/l        |
| 4       | Kinematic velocity at 100 deg centi. (cst) | 3.430 cSt          | 15.35 cSt          |
| 5       | Neutralisation value (mg of KOH.gm)        | 0.52 mg KOH/g      | 2.26 mg KOH/g      |
| 6       | Saponification value (mg of KOH.gm)        | 0.23 mg KOH/g      | 12.60 mg KOH/g     |
| 7       | Total hlogens as Ci (ppm)                  | 153 ppm            | 155 ppm            |
| 9       | Chromium as cr (ppm)                       | 0.19 ppm           | 0.96 ppm           |
| 10      | Nickel as Ni (ppm0)                        | 0.51 ppm           | 3.00 ppm           |
| 11      | Cadmium as cd (ppm)                        | BDL (D.L-0.10 ppm) | BDL (D.L-0.10 ppm) |
| 12      | Lead as Pb (ppm)                           | 0.54 ppm           | 5.34 ppm           |
| 13      | Arsenic as As (ppm)                        | BDL (D.L-0.10 ppm) | BDL (D.L-0.10 ppm) |
| 14      | PAH (ppm)                                  | BDL (D.L-2.00 ppm) | BDL (D.L-2.00 ppm) |
| 15      | PCB (ppm)                                  | BDL (D.L-2.0 ppm)  | BDL (D.L-2.0 ppm)  |

## PART G

### **Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.**

- WATER consumption per Mt of Pentaerythritol (Product) is 32.905 KL per tonne.
- We have reduced the specific POWER consumption in our Plant to 1363 KWH PMT of Pentaerythritol from 1393 KWH (in the year 2011-12), which indirectly reduces the emission at the power generation point.

Status of various resource conservation efforts over the last few years is given below:-

| Specific consumption Per Tonne of          | 1996-97 | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11          | 2011-12          |
|--|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------|------------------|
| <b>Water M<sup>3</sup></b>                 | 123     | 109     | 85      | 75        | 69      | 62      | 52      | 49      | 45      | 44      | 37      | 39.59   | 40.274  | 36.992  | 30.313           | 32.905           |
| <b>Steam MTs</b>                           | 33      | 30      | 28      | 27        | 25      | 23      | 21      | 19      | 19      | 20      | 20      | 21.01   | 19.669  | 18.940  | 19.810           | 19.560           |
| <b>Power Units KWH</b>                     | 2850    | 2694    | 2643    | 2431      | 2200    | 2090    | 1929    | 1695    | 1587    | 1554    | 1598    | 1500    | 1556.18 | 1477    | 1391             | 1363             |
| <b>Major Raw Material Acetaldehyde Kgs</b> | 455     | 433     | 423     | 422       | 401     | 395     | 300     | 374     | 390     | 389     | 387     | 376     | 376     | 378     | 371              | 370.750          |
| <b>Fuel Eq. Coal – Kgs.</b>                | 288     | 280     | 258     | 237       | 252     | 260     | 255     | 269     | 276     | 279     | 253     | 245     | 254     | 270     | 242              | 229.200          |
| <b>COD load Kgs/day</b>                    |         |         |         |           |         | 27      | 23      | 25      | 25      | 17      | 12      | 14      | 7.387   | 1.139   | <b>ZLD unit-</b> | <b>ZLD unit-</b> |
| <b>BOD load Kgs/day</b>                    |         |         |         |           |         | 3       | 3       | 2       | 2       | 2       | 2       | 1.77    | 0.788   | 0.123   |                  |                  |

- All specific consumption figures given above are for per ton of our product produced except for Fuel which is given in Kgs of Equivalent Coal per ton of Steam produced.

The above reduction in various resources directly reflects the improved environmental performance of our Division.

- Around 126 tree saplings were planted in our factory premises during the World Environment Day of June 5<sup>th</sup> 2011 .
- 68 numbers of tree saplings of different varieties like Kulmohar, Pungamia, Specthodia Rain trees, Spectofamia, Navva etc, have been planted in the rear side of our compound wall. East of our factory.
- The effluent generation is being periodically monitored on shift-wise basis and appropriate action is taken to reduce the effluent generation from source itself.
- The Effluent Treatment Plant is being operated as per the established operating procedure and the performance is being monitored closely to ensure consistent COD & BOD reduction across aeration system.
- We have connected the domestic effluent to the inlet of aeration tank in Effluent Treatment Plant which has improved performance of Effluent Treatment Plant in reducing BOD and total effluent is discharged through a single point.
- We are operating with two stage Reverse osmosis plant cum Zero Discharge system to recycle the treated effluent in to our process plant and the same is being operated and maintained on daily basis. Around 95 % of the recovered water from the Zero Liquid Discharge system is used in our Cooling tower and as boiler feed water after further polished in our ION exchange water treatment plant
- The ash storage area is properly bunded with dyke wall arrangement and an effective dust suppression system has been provided to eliminate dust emission from the area.
- Two numbers of coal storage shed of capacity 550 MT and 700 MT each, to store the same.
- Using low sulphur cum low ash content imported coal is being used.
- The ambient air and various emission discharge points of boiler stack and process stacks are being monitored at regular intervals by engaging external laboratory and TNPCB district environmental lab. The quality of the emission from the emission points are well within TNPCB norms.
- The sludge arrived out of ETP and ATFD (ZLD unit) is sending to TNWMA, Gummidipoondi for disposal as and when required.

## **AIR EMISSION MONITORING**

- We are monitoring the ambient air quality once in a week at four different locations. (Both up wind and Down wind directions.)
- We have been regularly monitoring boiler stack emission by engaging reputed laboratories / TNPCB's laboratory facility on a monthly basis.
- We are monitoring the Ambient VOC / THC / AAQ , in different locations (Both upwind and down wind direction) once in three months and ensured that the values are well within the limit.

### **Details of activities carried out to maintain the ambient air quality are as follows:-**

- We have installed a bag filter in our FBC Boilers and reduced the SPM level which is always lesser than 50 Mg/NM<sup>3</sup>. We have also provided on line SPM, SO<sub>2</sub> and NO<sub>x</sub> meters in our 16 TPH boiler chimney and monitoring the same on continuous basis.
- The entire fuel and ash handling systems in our boiler has been completely covered to avoid dust emission while handling fuel and ash.

## **ENVIRONMENT & SAFETY MANAGEMENT : ISO 14001 : OHSAS 18001**

- We have designed and implemented the Environmental Management System (EMS) as per the international standard ISO 14001. This system is being regularly audited every six months by M/s Det Norske Veritas (DNV). Our unit is also OHSAS 18001 standards by the same agency.

### **TRAINING OUR EMPLOYEES ON ENVIRONMENTAL ISSUES:**

- We are conducting training programme for our employees to educate, train and motivate their activities in an environmental friendly/responsible manner.
- As a part of ongoing ISO 14001 and OHSAS 18001 activities, we have been conducting job related environmental training programmes for all our employees in various departments.
- We are taking lead for spreading awareness on Environmental preservation by mobilising/campaigning on environmental issues among our employees and neighbouring villagers. The Environment Day was celebrated in our factory presided over by the DEE, TNPCB every year. Green Belt Initiative – Tree Plantation:

To improve green belt in our Plant premises, we have planted 698 tree saplings during the financial year. Over the last three years since the implementation of ISO 14001 activities, we had planted around 7528 tree saplings within our factory premises. We have also planned to plant 1000 more tree saplings during the financial year.

Around 90 % of the trees were uprooted during Thane Cyclone happened on 30<sup>th</sup> January 2012. We are in the process of planting 7000 numbers of tree saplings in and around our factory premises during 2012-13.

#### **PART – H**

#### **Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution**

- It is planned to continuously improve the greenery in the Plant in the ensuing years.
- We are currently using Environmental friendly imported coal originating from Indonesia.

#### **PART - I**

#### **Any other particulars for improving the quality of the environment.**

- We are conducting characterisation of the effluent and recycling the same in the plant for various process applications.