

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM NO. 5428  
for  
PRAXAIR INCORPORATED  
(Wilmington)  
(CA0001848)**

**I. Reporting Requirements**

- A. The Discharger shall implement this monitoring program on the effective date of this Order. All monitoring reports shall be submitted quarterly and must be received by the Regional Board by the dates in the following schedule. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit. The first monitoring report under this Program is due by April 15, 2002.

<u>Reporting Period</u>	<u>Report Due</u>
January-March	April 15
April-June	July 15
July-September	October 15
October-December	January 15

- B. If there is no discharge during any reporting period, the report shall so state.
- C. The Discharger shall submit an annual summary report (for both dry and wet weather discharges), containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and on a 3½" computer diskette. Submitted data must be IBM compatible, preferably using EXCEL software. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements. This annual report is to be received by the Regional Board by March 1 of each year following the calendar year of data collection.
- D. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

**II. Effluent Monitoring Requirements**

- A. A sampling station shall be established for each point of discharge and shall be located where representative samples of that effluent can be obtained.
- B. This Regional Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

- C. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136.3, 136.4, and 136.5 (revised May 14, 1999); or, where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Health Services and must include quality assurance/quality control (QA/QC) data in their reports.

The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML; or,
2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.>"). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory; or,
3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Current MLs (Attachment B) are those published by the State Water Resources Control Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, March 2, 2000 (SIP)*.

- D. Where possible, the MLs employed for effluent analyses shall be lower than the permit limits established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

The Regional Board, in consultation with the State Board Quality Assurance Program, shall establish an ML that is not contained in Attachment B to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment B;

2. When the Discharger and Regional Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR 136 (revised May 14, 1999);
  3. When the Discharger agrees to use an ML that is lower than that listed in Attachment B;
  4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment B, and proposes an appropriate ML for their matrix; or,
  5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Board, and the State Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.
- E. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.
- F. Quarterly effluent analyses shall be performed during the months of February, May, August and November. Semiannual effluent analyses shall be performed during the months of February and August. Annual effluent analyses shall be performed during the month of February. Results of quarterly, semiannual and annual analyses shall be reported in the appropriate quarterly monitoring report.
- G. For parameters where both monthly average and daily maximum limits are specified but where the monitoring frequency is less than four times a month, the following procedure shall apply: If an analytical result is greater than the monthly average limit, the sampling frequency shall be increased (within one week of receiving the laboratory results) to a minimum of once weekly at equal intervals until at least four consecutive weekly samples have been obtained and compliance with the monthly average limit has been demonstrated again, and the Discharger has set forth for the approval of the Executive Officer, a program which ensures future compliance with the monthly average limit.

### **III. Effluent Monitoring Program**

- A. The following shall constitute the effluent monitoring program for the final effluent:

<b>Constituent</b>	<b>Units</b>	<b>Type of Sample</b>	<b>Monitoring Frequency</b>
Total waste flow	gal/day	---	monthly
Temperature	°F or °C	grab	monthly
Total residual chlorine	mg/L	grab	monthly
COD	mg/L	grab	monthly
pH	pH unit	grab	quarterly
Conductivity, 25°C	µmhos/cm	grab	quarterly
Hardness (as CaCO <sub>3</sub> )	mg/L	grab	quarterly
Turbidity	NTU	grab	quarterly
Fecal coliform	MPN/100mL	grab	weekly
Total organic carbon	mg/L	grab	quarterly
Total suspended solids	mg/L	grab	quarterly
Settleable solids	ml/L	grab	quarterly
Oil and grease	mg/L	grab	quarterly
Sulfides	mg/L	grab	quarterly
Detergents (as MBAS)	mg/L	grab	quarterly
Copper	µg/L	grab	monthly
Lead	µg/L	grab	monthly
Mercury	µg/L	grab	quarterly
Nickel	µg/L	grab	monthly
Silver	µg/L	grab	quarterly
Thallium	µg/L	grab	quarterly
Zinc	µg/L	grab	monthly
Cyanide	µg/L	grab	quarterly
Acenaphthene	µg/L	grab	semi-annually <sup>1/</sup>
Anthracene	µg/L	grab	semi-annually <sup>1/</sup>
Benzo(a) Anthracene	µg/L	grab	semi-annually <sup>1/</sup>
Benzo(a) Pyrene	µg/L	grab	semi-annually <sup>1/</sup>
Benzo(b) Fluoranthene	µg/L	grab	semi-annually <sup>1/</sup>
Benzo(k) Fluoranthene	µg/L	grab	semi-annually <sup>1/</sup>
Chrysene	µg/L	grab	semi-annually <sup>1/</sup>
Dibenzo(a,h) Anthracene	µg/L	grab	semi-annually <sup>1/</sup>
Fluoranthene	µg/L	grab	semi-annually <sup>1/</sup>
Fluorene	µg/L	grab	semi-annually <sup>1/</sup>
Indeno(1,2,3-cd) Pyrene	µg/L	grab	semi-annually <sup>1/</sup>
Pyrene	µg/L	grab	semi-annually <sup>1/</sup>
Aldrin	µg/L	grab	semi-annually <sup>1/</sup>
Alpha-BHC	µg/L	grab	semi-annually <sup>1/</sup>
Beta-BHC	µg/L	grab	semi-annually <sup>1/</sup>
Chlordane	µg/L	grab	semi-annually <sup>1/</sup>
Dieldrin	µg/L	grab	semi-annually <sup>1/</sup>

<b>Constituent</b>	<b>Units</b>	<b>Type of Sample</b>	<b>Monitoring Frequency</b>
Endrin	µg/L	grab	semi-annually <sup>1/</sup>
Alpha-Endosulfan	µg/L	grab	semi-annually <sup>1/</sup>
Beta-Endosulfan	µg/L	grab	semi-annually <sup>1/</sup>
Heptachlor	µg/L	grab	semi-annually <sup>1/</sup>
Heptachlor Epoxide	µg/L	grab	semi-annually <sup>1/</sup>
4,4-DDT	µg/L	grab	semi-annually <sup>1/</sup>
4,4-DDE	µg/L	grab	semi-annually <sup>1/</sup>
4,4-DDD	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1242	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1254	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1221	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1232	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1248	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1260	µg/L	grab	semi-annually <sup>1/</sup>
Arochlor 1016	µg/L	grab	semi-annually <sup>1/</sup>
Toxaphene	µg/L	grab	semi-annually <sup>1/</sup>
Toxicity – acute	% Survival	Grab	quarterly <sup>2/</sup>
-- chronic	TU <sub>c</sub>	Grab	quarterly <sup>2/</sup>

1/ Sampling shall be done at the beginning of discharge. Once during wet weather season (November 1 through April 30) and once during dry weather season (May 1 through October 31).

2/ Monthly for the first six months, then converts to quarterly.

#### IV. Toxicity Monitoring Requirements

##### A. Acute Toxicity Effluent Monitoring Program

1. The Discharger shall conduct acute toxicity tests on effluent grab samples by methods specified in 40 CFR Part 136 which cites USEPA's Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fourth Edition, August, 1993 (EPA/600/4-90/027F) or a more recent edition to ensure compliance in 100 % effluent.
2. The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish effluent. The method for topsmelt is found in USEPA's Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine to Freshwater Organisms, First Edition, August, 1995 (EPA/600/4-95/136).
3. In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 48 hours of

the chronic toxicity test as the results of the acute toxicity test.

## **B. Chronic Toxicity Effluent/Receiving Water Monitoring Program**

1. The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour grab or composite 100 percent effluent samples in accordance with EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Third Edition, July 1994 (EPA/600/4-91/002) or EPA's Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, August 1995, (EPA/600/R-95/136).
2. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water in accordance with the conditions specified in Monitoring and Reporting Program No.5428.
3. Test Species and Methods:
  - a. The Discharger shall conduct tests as follows: with a vertebrate, an invertebrate, and a plant for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species.
  - b. Re-screening is required every 15 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrate that the same species is the most sensitive than re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.
  - c. The presence of chronic toxicity shall be estimated as specified using West Coast marine organisms according to EPA's Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms, August, 1995 (EPA/600/R-95/136).

## **C. Quality Assurance**

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002, EPA/600/R-95/136, or EPA/600/4-90/027F), then the Discharger must re-sample and re-test within 14 days.

3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

#### **D. Accelerated Monitoring**

1. If toxicity is detected as defined in this Order, then the Discharger shall conduct six additional tests, approximately every 7 days, over a six-week period. The samples shall be collected and the tests initiated no less than 7 days apart. The Discharger shall ensure that they receive results of a failing acute toxicity test within 24 hours of the close of the test and the additional tests shall begin within 3 business days of the receipt of the result. If two of the six tests (including the initial test) exceed 1.0 TU<sub>c</sub>, the Discharger shall immediately implement the Toxicity Identification Evaluation (TIE).
2. If toxicity is not detected in any of the six additional tests required above, then the Discharger may return to the normal sampling frequency required in Part III.A. of this monitoring and reporting program.
3. The Discharger shall obtain 6 consecutive chronic toxicity results less than or equal to 1 TU<sub>c</sub> in order to return to the normal sampling frequency required in Part III.A. of this permit.
4. The Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

#### **E. Reporting**

1. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported in Toxicity Units (% survival for acute or TU<sub>c</sub> for chronic) with the discharge monitoring reports (DMR) for the month in which the test is conducted.

If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, then those results also shall be submitted with the DMR for the period in which the investigation occurred.

2. The full report shall be submitted by the end of the month in which the DMR is submitted.
3. The full report shall consist of (1) the results; (2) the dates of sample collection and

- initiation of each toxicity test; (3) the acute toxicity limit or chronic toxicity limit.
4. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:
    - a. sample date(s);
    - b. test initiation date;
    - c. test species;
    - d. end point values for each dilution (e.g., number of young, growth rate, percent survival);
    - e. NOEC value(s) in percent effluent;
    - f. IC<sub>15</sub>, IC<sub>25</sub>, IC<sub>40</sub> and IC<sub>50</sub> values in percent effluent;
    - g. TU<sub>c</sub> values  $\left( TU_c = \frac{100}{NOEC} \right)$  ;
    - h. Mean percent mortality ( $\pm$ standard deviation) after 96 hours in 100% effluent (if applicable);
    - i. NOEC and LOEC values for reference toxicant test(s);
    - j. C<sub>25</sub> value for reference toxicant test(s);
    - k. Any applicable charts;
    - l. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
  5. The Discharger shall provide a compliance summary which includes a summary table of toxicity data from at least eleven of the most recent samples.
  6. The Discharger shall notify this Regional Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of a monitoring limit or trigger. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

## **V. Storm Water Monitoring Requirements**

### **A. Rainfall Monitoring**

The Discharger shall measure and record the rainfall on each day of the month. The monitoring results shall be submitted in the next quarterly monitoring report.

### **B. Visual Observations**

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor. Significant storm water discharge is a continuous discharge of storm water for a minimum of one hour, or the intermittent discharge of storm water for a minimum of three hours in a 12-hour period.

## **VI. Interim Monitoring and Reporting**

Pursuant to California Water Code Section 13267 and in accordance with the SIP, Praxair Incorporated is hereby directed to conduct seven quarters (**from July 2001 to March 2003**) of effluent and receiving water sampling/monitoring for all the constituents listed in Attachment A. To the extent there is any conflict between the requirements contained in this provision VI and a previous directive issued by the Regional Board on July 27, 2001, the requirements of this provision VI control. The Discharger may use any data previously collected and analyses previously performed in response to the aforementioned directive to comply with the requirements of this provision VI.

### **A. Interim Monitoring Requirements**

1. The data collected for all the constituents listed in Attachment A must be compiled to perform a Reasonable Potential Analysis (RPA), and if necessary to develop effluent limits.
2. The effluent sample shall be collected at the sump, the internal site sampling point designated sampling point 001. This sample sump is located at Longitude 118°13'40", Latitude 33°47'23" and collects all process water from the facility prior to discharge.
3. The Discharger must monitor the effluent and receiving water for the presence of the 17 congeners of 2,3,7,8-TCDD listed in Attachment A, once during the dry weather and once during the wet weather (a total of two samples) during this period. The Discharger must report for each congener the analytical results of the effluent monitoring, including the quantifiable limit and the Method Detection Limit (MDL), and the measured or estimated concentration. The Discharger must multiply each

measured or estimated congener concentration by its respective Toxicity Equivalent Factors (TEFs) and report the sum of these values.

4. The receiving water samples shall be collected upstream of the effluent discharge point in the receiving water outside the influence of the discharge. Where feasible receiving water sample should be collected 50 feet upstream from the point of discharge to Dominguez Channel Estuary.

## B. Interim Monitoring Report

1. The RPA monitoring reports must be submitted every quarter according to the schedule below: You may conduct the quarterly/semi-annually sampling during the periods prescribed in the monitoring and reporting section of your current permit, but the data must be submitted according to the Monitoring and Reporting Schedule which follows. However, if quarterly/semi-annually sampling is not required in your current permit, you must sample your effluent and the receiving water, and submit a report according to the Monitoring and Reporting Schedule below. Please note that the report for this required monitoring must be submitted separately from the self-monitoring reports.

Monitoring and Reporting Schedule	
Monitoring Period	Report Due Date
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15
Semi-annual sampling (to be conducted during October to March, and during April to September)	April 15 & October 15, Respectively

Semi-annual sampling results shall be reported in the quarterly reports submitted on the 15<sup>th</sup> day of April and October respectively.

2. SWRCB-approved laboratory methods and the corresponding minimum levels (MLs) for the examination of each priority pollutant are listed in Attachment B. Reporting requirements for the data to be submitted are listed in Attachment C. We recommend that you select the analytical method from Attachment A capable of achieving the lowest ML for each pollutant as listed on Attachment B. ML is necessary for determining compliance for a priority pollutant when an effluent limit is below the MDL.
3. The laboratory analytical data shall include applicable MLs, MDL, quality assurance/quality control data, and shall comply with the reporting requirements contained in the Attachments B & C.

4. In conformance with a prior directive, the first monitoring data under this program was due **October 15, 2001**, and the last report is due pursuant to this MRP on **April 15, 2003**, to this Regional Board. The last monitoring data shall include all the analytical data from the previous sampling events under this program. You must provide these analytical results in both **electronic format** (available as a **Microsoft Excel Spreadsheet** on our Web site [http://www.swrcb.ca.gov/~rwqcb4/html/programs/watershed\\_reg.html](http://www.swrcb.ca.gov/~rwqcb4/html/programs/watershed_reg.html)) and **in paper format**.
5. Please forward all interim monitoring data/report to The Regional Board, Attn: Industrial Permitting Unit, and please include a reference to "Compliance File No. CI-5428 and NPDES No. CA0001848".

Ordered by: \_\_\_\_\_  
Dennis A. Dickerson  
Executive Officer

Date: January 24, 2002