

## Form 2F – General Instructions

### General Instructions

#### Who Must Complete Form 2F?

You must complete Form 2F if you answered “Yes” to Item 1.2.5 on Form 1. If you operate a new or existing facility discharging storm water associated with industrial activity or with small construction activity that are required to obtain an individual permit or any other discharge of storm water that the department is evaluating for designation under ARM [17.30.1105\(1\)\(f\)](#) and is not a municipal storm sewer. Form 2F is required unless you are exempted by ARM [17.30.1322\(11\)\(b\)](#) through (d).

If the discharge is composed of storm water and non-storm water, the applicant must also submit Forms 2C, 2D, or 2E, as appropriate, in addition to Form 2F. See insert below.

- Forms 1 and 2F: Discharge composed entirely of stormwater.
- Forms 1, 2F, and 2C: Discharge of stormwater combined with process wastewater. Process wastewater is water that comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, waste product, or wastewater.
- Forms 1, 2F, and 2E: Discharge of stormwater combined with nonprocess wastewater. Nonprocess wastewater includes noncontact cooling water and sanitary wastes that are not regulated by effluent guidelines, except discharges by educational, medical, or commercial chemical laboratories.
- Forms 1, 2F, and 2D: Discharge of stormwater associated with industrial activity that will be combined with other new non-stormwater discharges.

#### Where to File Your Completed Form

Return this form, any supplemental forms, and applicable fees to:

Montana Department of Environmental Quality  
Water Protection Bureau  
PO Box 200901  
Helena, MT 59620-0901

#### When to File Your Completed Form

Form 2F must be submitted at least 180 days before your present MPDES permit expires or, if you are a new discharger, at least 180 days before the date on

which the discharge is to commence, unless DEQ has granted permission for a later date.

#### Fees

The Montana Water Quality Act requires that DEQ collect fees sufficient to cover the cost of issuing permits as well as the administrative costs associated with these activities. DEQ collects both application and annual fees. Fees vary depending upon the complexity, type, and strength of wastewater and the number of discharge points as set forth in ARM [17.30.201](#). *DEQ will not process this application until all the requested information is supplied, the application is complete, and the appropriate fees are paid.* Fee information is available on DEQ’s website: [www.deq.mt.gov](http://www.deq.mt.gov) or by contacting the Water Protection Bureau at (406)444-5546.

#### Public Availability of Submitted Information

DEQ will make information from MPDES permit application forms available to the public for inspection and copying upon request. You may not claim any information on Form 2F (or related attachments) as confidential. You may make a claim of confidentiality for any information that you submit that goes beyond the information required by Form 2F. If you do not assert a claim of confidentiality at the time you submit your information, DEQ may make the information available to the public without further notice to you. DEQ will handle claims of confidentiality in accordance with the Agency’s business confidentiality regulations at ARM [17.30.1321](#) and [75-5-105](#), MCA.

#### Completion of Forms

Print or type in the specified areas only. If you do not have enough space on the form to answer a question, you may continue on additional sheets, as necessary, using a format consistent with the form.

***Provide your MPDES permit number at the top of each page of Form 2F and any attachments.*** If your facility is new (i.e., not yet constructed), write or type “New Facility” in the space provided for the permit number. If you do not know your permit number, contact DEQ.

#### Definitions

Key terms used in the various MPDES application forms are included in the “Glossary” attachment. See ARM [17.30.1304](#), and [75-5-103\(24\)](#), MCA.

## Form 2F Line by Line Instructions

### Line-by-Line Instructions

#### Section 1. Outfall Location

**Item 1.1.** Identify each of the facility's outfalls by number. For each outfall, specify the name of the receiving water and the latitude and longitude to 4 decimal places if reporting in decimal degrees or the nearest second if reporting in degrees, minutes, seconds. Latitude and longitude coordinates may be obtained in a variety of ways, including use of hand held devices (e.g., a GPS enabled smartphone), internet mapping tools (e.g., <https://nris.msl.mt.gov/>), geographic information systems (e.g., ArcView), or paper maps from trusted sources (e.g., U.S. Geological Survey or USGS). The coordinates of each outfall shall be the location where collected and concentrated stormwater flows are discharged from the facility. The first state water discharge encounters either directly or through a separate storm sewer system is the outfall's receiving water. If you need further guidance in responding to Item 1.1, refer to <https://www.epa.gov/geospatial/latitudeandlongitude-data-standard>.

Note: "Outfalls" are also referred to as "discharge points."

Form 2F has space for six outfalls. If your facility has more than this number, type your information on a separate sheet of paper in a format similar to that of the form. Make sure you note the MPDES permit number and facility name at the top of the page and indicate the specific item of the form to which you are responding - Item 1.1 in this case. In Sections 2, 4, 5, and 7 of this form, you will be asked to provide information by outfall number.

#### Section 2. Improvements

**Item 2.1.** Indicate if you are required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices, or any other environmental programs that could affect the discharges described in this application. The requirements include but are not limited to permit conditions, administrative enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions. If yes, continue to Item 2.2. If no, skip to Section 3.

**Item 2.2.** Briefly identify and describe each applicable project (e.g., consent decree, enforcement order, or permit condition). For each condition,

specify the affected outfall number(s), the source(s) of the discharge, the required final compliance date, and the projected final compliance date.

**Item 2.3.** OPTIONAL ITEM. Indicate if you have attached any sheets describing any additional water pollution control programs (or other environmental projects that could affect your discharges) that you may now have underway or planned. If you attach additional sheets, indicate in the attachment whether each program is currently underway or is planned, and indicate your actual or planned schedule for construction. Be sure to note your MPDES permit number, and facility name at the top of any attached pages.

#### Section 3. Site Drainage Map

**Item 3.1** Attach a site drainage map showing the topography of the facility. If a topographic map is unavailable, you may provide an outline of drainage areas served by the outfall(s) covered in the application. The site map must include the following information:

1. Each drainage and discharge structure.
2. The drainage area of each stormwater outfall.
3. Paved areas and buildings within the drainage area of each stormwater outfall; each past or present area used for outdoor storage or disposal of significant materials; each existing structural control measure to reduce pollutants in stormwater runoff; materials loading and access areas; and areas where pesticides, herbicides, soil conditioners, and fertilizers are applied.
4. Each hazardous waste treatment, storage, or disposal facility (including each area not required to have a Resource Conservation and Recovery Act permit and is used for accumulating hazardous waste for less than 90 days under 40 CFR 262.34).
5. Each well where fluids from the facility are injected underground.
6. Springs and other surface water bodies that receive stormwater discharges from the facility.

When you have completed and attached your site map to Form 2F, answer "Yes" to Item 3.1.

#### Section 4. Pollutant Sources

**Item 4.1.** List all outfalls discharging stormwater. Provide an estimate of the impervious surface area drained by the outfall. Specify units of measure. Impervious surfaces are surfaces where stormwater runs off at rates significantly higher than background

## Form 2F Line by Line Instructions Continued

rates—e.g., predevelopment levels. They include paved areas, building roofs, parking lots, and roadways.

Provide an estimate of the total surface area drained by each outfall within a mile radius of the facility. You may use the site map developed under Item 3.1 to estimate the total area drained by each outfall. For areas under 5 acres, consult DEQ to determine whether the area should be reported to the nearest tenth of an acre or nearest quarter of an acre.

**Item 4.2.** Provide a narrative description of the following:

1. Significant materials that in three years prior to the submittal of this application have been treated, stored, or disposed of in a manner to allow exposure to stormwater.
2. Method of treatment, storage, or disposal of such materials.
3. Materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with stormwater runoff.
4. Materials loading and access areas.
5. The location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

Identify significant materials by chemical name, form (e.g., powder, liquid, etc.), and type of container or treatment unit. Indicate any materials treated, stored, or disposed of together. The term “significant materials” includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act; any chemical the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act; and fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

**Item 4.3.** For each outfall, list the location and type of existing structural and non-structural control measure(s) to reduce pollutants in stormwater runoff. Structural controls include structures that enclose materials handling or storage areas; structures that cover materials; and berms, dikes, or diversion ditches around manufacturing, production, storage, or

treatment units and retention ponds. Spill prevention plans, employee training, visual inspections, preventive maintenance, and housekeeping measures are examples of non-structural controls.

Describe the treatment, including the schedule and type of maintenance activities performed, and the ultimate disposal of any solid or fluid wastes other than by discharge. For each structural control identified, indicate the type of treatment the stormwater receives using the codes in Exhibit 2F–1, at the end of the instructions. For each non-structural control identified, indicate “Not Applicable” in the “Codes from Exhibit 2F–1” column.

### Section 5. Non-Stormwater Discharges

**Item 5.1.** Certify that all outfalls that should contain stormwater discharges associated with industrial activity have been tested or evaluated for the presence of non-stormwater discharges. Tests for such non-stormwater discharges can include smoke tests, fluorometric dye tests, analysis of accurate schematics, and others.

**Item 5.2.** Include a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test used to support the certification in Item 5.1. All non-stormwater discharges must be identified in a Form 2C, 2D, or 2E. See “Who Must Complete Form 2F?” above for more information.

### Section 6. Significant Leaks or Spills

**Item 6.1.** Describe any significant leaks or spills of toxic or hazardous pollutants at the facility within the three years prior to the submittal of this application. Include the approximate date and location of the spill or leak and the type and amount of material released.

### Section 7. Discharge Information

**Item 7.1.** Answer whether the facility is a new source or new discharge. Contact DEQ to determine if your facility is a new source or new discharge.

### Tables A, B, C, and D

**Items 7.2 to 7.17.** These items require you to collect and report data in Tables A through D, at the end of Form 2F, for the parameters and pollutants listed in Exhibits 2F–2, 2F–3, and 2F–4 (at the end of the instructions). The instructions for completing Tables A through D are table-specific, as are the criteria for determining who should complete them.

**Important note:** Read the “General Instructions for Reporting, Sampling, and Analysis” below before completing Items 7.2 to 7.17.

## General Instructions for Reporting, Sampling, and Analysis

**Important note:** Read these instructions before completing Tables A through C and Section 7 of Form 2F.

### General Items

Complete the applicable tables for each outfall at your facility. ***Be sure to note MPDES permit number and applicable outfall number at the top of each table page*** and any associated attachments.

You may report some or all of the required data by including attachments instead of completing Tables A through C for each of your outfalls so long as the sheets contain all of the required information and are similar in format to Tables A through C. For example, you may be able to print a report in a compatible format from the data system used in your gas chromatography/ mass spectrometry (GC/MS) analysis completed under Table B.

Table A requires you to report at least one analysis for each pollutant listed. Tables B and C require you to report analytical data in two ways. For some pollutants addressed in Tables B and C, if you know or have reason to suspect that the pollutant is present in your discharge, you may be required to list the pollutant and test (sample and analyze) and report the levels of the pollutants in your discharge. For all other pollutants addressed in Tables B and C, you must list the pollutant if you know or have reason to know that the pollutant is present in the discharge, and either report quantitative data for the pollutant or briefly describe the reasons the pollutant is expected to be discharged. (See Items 7.2 through 7.17 of the instructions for completing Tables A through C.). Base your determination that a pollutant is/will be present in your discharge on your knowledge of the facility's raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts, and any previous analyses known to you of your effluent or similar effluent.

### Existing dischargers

If you are an existing discharger, you are required to report *actual* quantitative data. See "Use of Historic Data" below for use of historic data.

### New dischargers

You may supply *estimated* data along with the source of each estimate. If you have quantitative data available, you must provide it. Base estimates on available, in-house or contractor engineering reports, or any other studies performed on the proposed facility. Use the following codes to report your source information in the "Source of Information" column:

### Data Source

Data Source	Code
Engineering reports	1
Actual data from pilot plants	1
Estimates from other engineering reports	2
Data from other similar plants	3
Best professional estimates	4
Other (specify on table)	5

No later than 24 months after your facility commences to discharge, you must complete and submit sampling and analysis data for the pollutants and parameters in Tables A through C. However, you need not report results for tests you have already performed and reported under the discharge monitoring requirements of your MPDES permit.

### Analysis

Except as specified at 40 CFR 122.21(e)(3)(ii), all samples must be collected, preserved, and analyzed in accordance with approved analytical methods listed in 40 CFR Part 136, unless use of another method is required for the pollutant under 40 CFR chapter I, subchapter N. All methods must be sufficiently sensitive. A method is "sufficiently sensitive" when one of the following is met:

- The method minimum level (ML) is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter.
- The method ML is above the water quality criterion, but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge.
- The method has the lowest ML of the analytical methods approved under 40 CFR 136 or required under 40 CFR chapter I, subchapter N, for the measured pollutant or pollutant parameter.

The minimum level of quantitation means the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration point for the analyte, as determined by the procedure set forth at 40 CFR 136. In most cases the ML is equivalent to the Required Reporting Value (RRV) identified in Department Circular DEQ-7 unless otherwise specified in the permit (ARM 17.30.702). Laboratory analytical results reported as less than detection must achieve these RRVs or permit-specified MLs.

Consistent with 40 CFR 136, you may provide matrix- or sample-specific MLs rather than the

## General Instructions for Reporting, Sampling, and Analysis Continued

published levels. Further, where you can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of “sufficiently sensitive,” the analytical results are not consistent with the quality assurance (QA)/quality control (QC) specifications for that method, then the MPDES permitting authority may determine that the method is not performing adequately and the MPDES permitting authority should select a different method from the remaining EPA-approved methods that is sufficiently sensitive consistent with 40 CFR 122.21(e)(3)(i).

When there is no analytical method that has been approved under 40 CFR 136; required under 40 CFR chapter I, subchapter N, and is not otherwise required by the MPDES permitting authority, you may use a suitable method but shall provide a description of the method [40 CFR 122.21(e)(3)(ii)]. When selecting a suitable method, other factors such as a method’s precision, accuracy, or resolution, may be considered when assessing the performance of the method.

Effluent monitoring data must comply with the QA/QC requirements of 40 CFR 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR 136.

### Sampling

Grab samples must be taken in the first 30 minutes of discharge (or as soon thereafter as practicable) for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*) and enterococci (previously known as fecal streptococcus at 40 CFR 122.26(d)(2)(iii)(A)(3)), and volatile organic compounds. You are not required to analyze a flow-weighted composite for these parameters.

For all other pollutants, both a grab sample collected during the first 30 minutes (or as soon thereafter as practicable) of the discharge and a flow-weighted composite sample must be analyzed. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours.

All samples must be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area.

A grab sample must be taken during the first 30 minutes of the discharge (or as soon thereafter as practicable), and a flow-weighted composite must be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

A **grab sample** is an individual sample of at least 100 milliliters collected during the first 30 minutes (or as soon thereafter as practicable) of the discharge. This sample is to be analyzed separately from the composite sample.

A **flow-weighted composite sample** may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum period of 15 minutes between aliquot collections. The composite must be flow proportional; the time interval between either each aliquot or the volume of each aliquot must be proportional to either the stream (effluent) flow at the time of sampling or the total stream (effluent) flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. Where GC/MS volatile organic analysis is required, aliquots must be combined in the laboratory immediately before analysis. Only one analysis for the composite sample is required.

**Use of Existing Data.** Existing data may be used, if available, in lieu of sampling conducted solely for the purposes of this application, provided it is representative of the present discharge and was collected within 3 years of the application due date. If you sample for a listed pollutant on a monthly or more frequent basis, summarize the data collected within one year of the application for the pollutant(s) at issue.

Among the factors that would cause the data to be unrepresentative are significant changes in production level; changes in raw materials, processes, or final products; and changes in stormwater treatment. The MPDES permitting authority may request additional information, including current quantitative data, if they determine it to be necessary to assess your discharges. DEQ may allow or establish appropriate site-specific sampling procedures or requirements including sampling locations, the season in which the sampling takes

## General Instructions for Reporting, Sampling, and Analysis Continued

place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rainfall), protocols for collecting samples under 40 CFR 136, and additional time for submitting data on a case-by-case basis.

### Reporting

**Clearly specify the units of measure** for all pollutants in Tables A through C as concentration (mg/L or µg/L) and mass (lb/day), with the exception of flow, temperature, pH, color, and fecal coliform organisms. Flow, temperature, pH, color, and fecal coliform organisms must be reported as million gallons per day (mgd), degrees Celsius (°C), standard units, color units, and most probable number per 100 milliliters (MPN/100 mL), respectively.

All reporting of values for metals must be in terms of “total recoverable metal” unless all approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium), or it is necessary to express the limitations for the metal in dissolved, valent, or total form as promulgated by an ELG or required by DEQ on a case-by-case basis.

If you measure only one grab sample and one flow-weighted composite sample for a given outfall, complete only the “Maximum Daily Discharge” columns in the tables and enter “1” in the “Number of Storm Events Sampled” column. DEQ may require you to conduct additional analyses to further characterize your discharges.

If you measure more than one value for a grab sample or a flow-weighted composite sample for a given outfall and those values are representative of your discharge, you must report them. You must describe your method of testing and analysis.

The “Average Daily Discharge” column on Tables A to C is *not* compulsory but should be filled out if data are available. To complete the “Average Daily Discharge” column, determine the average of all values within the last year and report the concentration and mass. Report the total number of storm events sampled under the “Number of Storm Events Sampled” column.

### Substantially Identical Outfalls

If you have two or more substantially identical outfalls, you may request permission to sample and analyze only one outfall and submit the results of the analysis for all substantially identical outfalls. If your request is granted, submit the following information on a separate sheet attached to the application form: the identity of the outfall you did test and an explanation of how it is substantially identical to the outfall(s) that you did not test.

***The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater or stormwater discharges.*** You may contact DEQ for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements in the analytical methods - for example, sample containers, sample preservation, holding times, and the collection of duplicate samples - must be followed.

The time when you sample should be representative of your normal operation, to the extent feasible, with all processes that contribute wastewater in normal operation, and with your treatment system operating properly with no system upsets. Collect samples from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present MPDES permit, or at any site adequate for the collection of a representative sample.

## Form 2F Line by Line Instructions Continued

**Item 7.2 and Table A.** All applicants must complete Table A. If the discharge is an existing discharge and your discharge is composed exclusively of stormwater (i.e., no process or nonprocess wastewater) then you only need to provide monitoring data for oil and grease, total phosphorus, total Kjeldahl nitrogen, and total nitrogen. Indicate “NA” for “not applicable” in the columns for all other parameters. Answer “Yes” to Item 7.2 once you have completed this task.

**Item 7.3 and Table B.** Indicate whether the facility is subject to an effluent limitations guideline (ELG) (see 40 CFR Subchapter N to determine which pollutants are limited in ELGs) or if the facility is subject to effluent limitations in an MPDES permit for its process wastewater or stormwater (if the facility is operating under an existing MPDES permit). If yes, continue to Item 7.4. If no, skip to Item 7.5.

Note: Stormwater discharges from certain industrial sources or activities have specific ELGs for which they must comply. These *stormwater-specific* ELGs include:

Regulated Discharge	40 CFR Section
Discharges resulting from spraydown or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, byproducts or waste products (SIC 2874)	Part 418, Subpart A
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, and D
Runoff from hazardous waste and non-hazardous waste landfills	Part 445, Subparts A and B
Runoff from coal storage piles at steam electric generating facilities	Part 423
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449

**Item 7.4.** In Table B, list all pollutants that are limited in an ELG to which the facility is subject and all pollutants listed in the facility's MPDES permit for its process wastewater (if the facility is operating under an existing MPDES permit) and provide quantitative data for each pollutant (provide actual data for existing dischargers and estimated data for new sources and new dischargers). If a pollutant in Exhibits 2F-2 or 2F-3 is indirectly limited by an ELG through an indicator (e.g., use of total suspended solids as an indicator to control the discharge of iron and aluminum), you must provide data for the pollutant in Table B. Complete one table for each outfall. Answer “Yes” to Item 7.4 once you have completed this task.

**Item 7.5 and Table C.** Table C requires you to address the pollutants in Exhibits 2F-2, 2F-3, and 2F-4 for each outfall. Pollutants in each of these exhibits are addressed differently.

Indicate whether you know or have reason to believe any pollutants in Exhibit 2F-2 are present in the discharge. If yes, continue to Item 7.6. If no, skip to Item 7.7.

**Item 7.6.** For each outfall, list all pollutants in Exhibit 2F-2 that you know or have reason to believe are present in the discharge in Table C (except pollutants previously listed in Table B that are limited directly or indirectly by an ELG) and either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged. Answer “Yes” to Item 7.6 once you have completed this task.

**Item 7.7.** This item asks if you qualify as a “small business.” If so, you are exempt from the reporting requirements for the organic toxic pollutants listed in Exhibit 2F-3.

You can qualify as a small business in two ways:

1. If your facility is a coal mine and if your probable total annual production is less than 100,000 tons per year, you may submit past production data or estimated future production (such as a schedule of estimated total production under 30 CFR 795.14(c)) instead of conducting analyses for the organic toxic pollutants;
2. If your facility is not a coal mine and if your gross total annual sales average less than \$100,000 per year (in second quarter 1980 dollars), you may submit sales data for those years instead of conducting analyses for the organic toxic pollutants.

## Form 2F Line by Line Instructions Continued

The production or sales data must be for the facility that is the source of the discharge. The data should not be limited to production or sales for the process or processes that contribute to the discharge, unless those are the only processes at your facility. For sales data, in situations involving intra-corporate transfer of goods and services, the transfer price per unit should approximate market prices for those goods and services as closely as possible. Sales figures for years after 1980 should be indexed to the second quarter of 1980 by using the gross national product price deflator (second quarter of 1980 = 100). This index is available online from the U.S. Department of Commerce, Bureau of Economic Analysis at <https://www.bea.gov/data/prices-inflation/gdp-price-deflator>. If you qualify as a small business according to the criteria above, answer "Yes" to Item 7.7 and skip to Item 7.18. Otherwise, answer "No" and continue to Item 7.8.

**Item 7.8.** Indicate whether you know or have reason to believe any pollutants in Exhibit 2F-3 are present in the discharge. If yes, continue to Item 7.9. If no, skip to Item 7.10.

**Item 7.9.** For each outfall, list all pollutants in Exhibit 2F-3 that you know or have reason to believe are present in the discharge in Table C (except pollutants previously listed in Table B). Answer "Yes" to Item 7.9 once you have completed this task.

**Item 7.10.** Indicate whether you expect any of the pollutants from Exhibit 2F-3 to be discharged in concentrations of 10 parts per billion (ppb) or greater. If yes, continue to Item 7.11. If no, skip to Item 7.12.

**Item 7.11.** Provide quantitative data in Table C for those pollutants in Exhibit 2F-3 that you expect to be discharged in concentrations of 10 ppb or greater (provide actual data for existing dischargers and estimated data for new sources and new dischargers). Answer "Yes" to Item 7.11 once you have completed this task.

**Item 7.12.** Indicate whether you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater. If yes, continue to Item 7.13. If no, skip to Item 7.14.

**Item 7.13.** Provide quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater (provide actual data for existing dischargers and estimated data for new sources and new dischargers). Answer "Yes" to Item 7.13 once you have completed this task.

**Item 7.14.** For any pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the above four pollutants), either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged in Table C. Answer "Yes" to Item 7.14 once you have completed this task.

**Item 7.15.** Indicate whether you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge. If yes, continue to Item 7.16. If no, skip to Item 7.17.

**Item 7.16.** For each outfall, list any pollutant in Exhibit 2F-4 that you know or believe to be present in the discharge in Table C and explain why you believe it to be present. No analysis is required, but if you have analytical data, you must report it. Answer "Yes" to Item 7.16 once you have completed this task.

**Note:** Under 40 CFR 117.12(a)(2), certain discharges of hazardous substances (listed in Exhibit 2F-5) may be exempted from the requirements of CWA Section 311, which establishes reporting requirements, civil penalties, and liability for cleanup costs for spills of oil and hazardous substances. A discharge of a particular substance can be exempted if the origin, source, and amount of the discharged substances are identified in the permit application or in the permit, if the permit contains a requirement for treatment of the discharge, and if the treatment is in place. If you would like to apply for an exemption from the requirements of CWA Section 311, attach additional sheets of paper to your application, setting forth the following information:

1. The substance and the amount of each substance that might be discharged.
2. The origin and source of the discharge of the substance.
3. The treatment to be provided for the discharge by:
  - a. An onsite treatment system separate from any treatment system treating your normal discharge;
  - b. A treatment system designed to treat your normal discharge and that is additionally capable of treating the amount of the substance identified under paragraph 1 above; or
  - c. Any combination of the above.

See 40 CFR 117.12(a)(2) and (c) or contact DEQ for further information on exclusions from CWA Section 311.

**Item 7.17 and Table D.** Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow weighted composite sample in Table D.

## Form 2F Line by Line Instructions Continued

If sampling is conducted during more than one storm event, you only need to report the information requested on Table D for the storm event(s) that resulted in any maximum pollutant concentration reported on Tables A through C.

Provide flow measurements or estimates of the flow rate, as well as the total amount of discharge for the storm event(s) sampled, the method of flow measurement, or estimation. Provide the data and duration of the storm event(s) sampled, rainfall measurements, or estimates of the storm event that generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event. Answer "Yes" to Item 7.17 once you have completed this task.

### Used or Manufactured Toxics

**Item 7.18.** Review Exhibits 2F–2 through 2F–4 and determine if you currently use or manufacture any of the pollutants listed as intermediate or final products or byproducts. If so, answer "Yes." You should also answer "Yes" if you know or have reason to believe that 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD) is discharged or if you use or manufacture 2,4,5-trichlorophenoxy acetic acid (2,4,5-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-

trichlorophenol (TCP); or hexachlorophene (HCP). If your answer to Item 7.18 is "No," skip to Section 8.

**Item 7.19.** List all of the toxic pollutants identified under Item 7.18, including TCDD. Note that DEQ may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each toxic pollutant and the MPDES permitting authority has adequate information to issue your permit. You may not claim any information submitted in response to Item 7.18 as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

### Section 8. Biological Toxicity Testing Data

**Item 8.1.** Answer whether you know of or have reason to believe that biological toxicity testing has been conducted of your wastewater treatment, including engineering reports or pilot plant studies. If no, skip to Section 9. Otherwise, continue.

**Item 8.2.** List any tests of which you are aware and their purposes.

### Section 9. Contract Analysis Information

**Item 9.1.** Indicate if any of the analyses performed in Section 7 were performed by a contract laboratory or consulting firm. If no, skip to Section 10. If yes, continue to Item 9.2.

**Item 9.2.** Provide the name, address, phone number, and pollutants analyzed by the laboratory or consulting firm(s) in the spaces provided.

## Form 2F – Section 10, Certification Statement

**Item 10.1.** This form must be signed and certified by the appropriate official as given in Section 6 and ARM 17.30.1323. The Montana Water Quality Act provides for penalties of not more than \$25,000 or imprisonment for not more than 6 months, or both, for any person that knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the ACT, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under the Act. 75-5-633, MCA.

### This application must be signed as follows:

- A. For a corporation, by a responsible corporate officer. A responsible corporate officer means:
1. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  2. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures
- B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- C. For a municipality, state, federal, or other public agency, by either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes:
1. The chief executive officer of the agency, or
  2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

**Exhibit 2F–1. Codes for Treatment Units and Disposal of Wastes Not Discharged****1. Physical Treatment Processes**

1–A .....Ammonia stripping	1–M .....Grit removal
1–B.....Dialysis	1–N .....Microstraining
1–C.....Diatomaceous earth filtration	1–O .....Mixing
1–D .....Distillation	1–P.....Moving bed filters
1–E.....Electrodialysis	1–Q .....Multimedia filtration
1–F .....Evaporation	1–R .....Rapid sand filtration
1–G .....Flocculation	1–S.....Reverse osmosis ( <i>hyperfiltration</i> )
1–H .....Flotation	1–T.....Screening
1–I.....Foam fractionation	1–U .....Sedimentation ( <i>settling</i> )
1–J.....Freezing	1–V .....Slow sand filtration
1–K .....Gas-phase separation	1–W .....Solvent extraction
1–L.....Grinding ( <i>comminutors</i> )	1–X .....Sorption

**2. Chemical Treatment Processes**

2–A .....Carbon adsorption	2–G .....Disinfection ( <i>ozone</i> )
2–B.....Chemical oxidation	2–H .....Disinfection ( <i>other</i> )
2–C.....Chemical precipitation	2–I.....Electrochemical treatment
2–D .....Coagulation	2–J .....Ion exchange
2–E.....Dechlorination	2–K .....Neutralization
2–F .....Disinfection ( <i>chlorine</i> )	2–L.....Reduction

**3. Biological Treatment Processes**

3–A .....Activated sludge	3–E.....Pre-aeration
3–B.....Aerated lagoons	3–F.....Spray irrigation/land application
3–C.....Anaerobic treatment	3–G .....Stabilization ponds
3–D .....Nitrification–denitrification	3–H .....Trickling filtration

**4. Wastewater Disposal Processes**

4–A .....Discharge to surface Water	4–C .....Reuse/recycle of treated effluent
4–B.....Ocean discharge through outfall	4–D .....Underground injection

**5. Sludge Treatment and Disposal Processes**

5–A .....Aerobic digestion	5–M .....Heat drying
5–B.....Anaerobic digestion	5–N .....Heat treatment
5–C.....Belt filtration	5–O .....Incineration
5–D .....Centrifugation	5–P.....Land application
5–E.....Chemical conditioning	5–Q .....Landfill
5–F .....Chlorine treatment	5–R .....Pressure filtration
5–G .....Composting	5–S.....Pyrolysis
5–H .....Drying beds	5–T.....Sludge lagoons
5–I.....Elutriation	5–U .....Vacuum filtration
5–J.....Flotation thickening	5–V .....Vibration
5–K .....Freezing	5–W .....Wet oxidation
5–L.....Gravity thickening	

**Exhibit 2F–2. Conventional and Nonconventional Pollutants (40 CFR 122.21, Appendix D, Table IV)**

Bromide	Surfactants
Chlorine, total residual	Aluminum, total
Color	Barium, total
Fecal coliform	Boron, total
Fluoride	Cobalt, total
Nitrate-nitrite	Iron, total
Nitrogen, total organic (as N)	Magnesium, total
Oil and grease	Molybdenum, total
Phosphorus (as P), total	Manganese, total
Sulfate (as SO <sub>4</sub> )	Tin, total
Sulfide (as S)	Titanium, total
Sulfite (as SO <sub>3</sub> )	Radioactivity (total alpha, total beta, total radium, radium 226)

**Exhibit 2F-3. Toxic Pollutants (40 CFR 122.21, Appendix D, Tables II and III)****Toxic Pollutants and Total Phenol**

Antimony, total	Copper, total	Silver, total
Arsenic, total	Lead, total	Thallium, total
Beryllium, total	Mercury, total	Zinc, total
Cadmium, total	Nickel, total	Cyanide, total
Chromium, total	Selenium, total	Phenols, total

**GC/MS Fraction—Volatile Compounds**

Acrolein	Dichlorobromomethane	1,1,2,2-tetrachloroethane
Acrylonitrile	1,1-dichloroethane	Tetrachloroethylene
Benzene	1,2-dichloroethane	Toluene
Bromoform	1,1-dichloroethylene	1,2-trans-dichloroethylene
Carbon tetrachloride	1,2-dichloropropane	1,1,1-trichloroethane
Chlorobenzene	1,3-dichloropropylene	1,1,2-trichloroethane
Chlorodibromomethane	Ethylbenzene	Trichloroethylene
Chloroethane	Methyl bromide	Vinyl chloride
2-Chloroethylvinyl ether	Methyl chloride	
Chloroform	Methylene chloride	

**GC/MS Fraction—Acid Compounds**

2-chlorophenol	2,4-dinitrophenol	Pentachlorophenol
2,4-dichlorophenol	2-nitrophenol	Phenol
2,4-dimethylphenol	4-nitrophenol	2,4,6-trichlorophenol
4,6-dinitro-o-cresol	p-chloro-m-cresol	

**GC/MS Fraction—Base/Neutral Compounds**

Acenaphthene	4-chlorophenyl phenyl ether	Hexachlorobenzene
Acenaphthylene	Chrysene	Hexachlorobutadiene
Anthracene	Dibenzo (a,h) anthracene	Hexachlorocyclopentadiene
Benzidine	1,2-dichlorobenzene	Hexachloroethane
Benzo (a) anthracene	1,3-dichlorobenzene	Indeno (1,2,3-cd) pyrene
Benzo (a) pyrene	1,4-dichlorobenzene	Isophorone
3,4-benzofluoranthene	3,3-dichlorobenzidine	Naphthalene
Benzo (ghi) perylene	Diethyl phthalate	Nitrobenzene
Benzo (k) fluoranthene	Dimethyl phthalate	N-nitrosodimethylamine
Bis (2-chloroethoxy) methane	Di-n-butyl phthalate	N-nitrosodi-n-propylamine
Bis (2-chloroethyl) ether	2,4-dinitrotoluene	N-nitrosodiphenylamine
Bis (2-chloroisopropyl) ether	2,6-dinitrotoluene	Phenanthrene
Bis (2-ethylhexyl) phthalate	Di-n-octyl phthalate	Pyrene
4-bromophenyl phenyl ether	1,2-diphenylhydrazine (as azobenzene)	1,2,4-trichlorobenzene
Butyl benzyl phthalate	Fluoranthene	
2-chloronaphthalene	Fluorene	

**GC/MS Fraction—Pesticides**

Aldrin	Dieldrin	PCB-1254
α-BHC	α-endosulfan	PCB-1221
β-BHC	β-endosulfan	PCB-1232
γ-BHC	Endosulfan sulfate	PCB-1248
δ-BHC	Endrin	PCB-1260
Chlordane	Endrin aldehyde	PCB-1016
4,4'-DDT	Heptachlor	Toxaphene
4,4'-DDE	Heptachlor epoxide	
4,4'-DDD	PCB-1242	

**Exhibit 2F-4. Certain Hazardous Substances and Asbestos (40 CFR 122.21, Appendix D, Table V)****Toxic Pollutant**

Asbestos

**Hazardous Substances**

Acetaldehyde	Kelthane
Allyl alcohol	Kepone
Allyl chloride	Malathion
Amyl acetate	Mercaptodimethur
Aniline	Methoxychlor
Benzonitrile	Methyl mercaptan
Benzyl chloride	Methyl methacrylate
Butyl acetate	Methyl parathion
Butylamine	Mevinphos
Captan	Mexacarbate
Carbaryl	Monoethyl amine
Carbofuran	Monomethyl amine
Carbon disulfide	Naled
Chlorpyrifos	Naphthenic acid
Coumaphos	Nitrotoluene
Cresol	Parathion
Crotonaldehyde	Phenolsulfonate
Cyclohexane	Phosgene
2,4-D (2,4-dichlorophenoxyacetic acid)	Propargite
Diazinon	Propylene oxide
Dicamba	Pyrethrins
Dichlobenil	Quinoline
Dichlone	Resorcinol
2,2-dichloropropionic acid	Strontium
Dichlorvos	Strychnine
Diethyl amine	Styrene
Dimethyl amine	2,4,5-T (2,4,5-trichlorophenoxyacetic acid)
Dinitrobenzene	TDE (tetrachlorodiphenyl ethane)
Diquat	2,4,5-TP [2-(2,4,5-trichlorophenoxy) propanoic acid]
Disulfoton	Trichlorofon
Diuron	Triethanolamine
Epichlorohydrin	Triethylamine
Ethion	Trimethylamine
Ethylene diamine	Uranium
Ethylene dibromide	Vanadium
Formaldehyde	Vinyl acetate
Furfural	Xylene
Guthion	Xylenol
Isoprene	Zirconium
Isopropanolamine	

**Exhibit 2F–5. Hazardous Substances**

1. Acetaldehyde	58. Beryllium nitrate	113. Dichloropropene
2. Acetic acid	59. Butylacetate	114. Dichloropropene- dichloropropane mix
3. Acetic anhydride	60. n-butylphthalate	115. 2,2-dichloropropionic acid
4. Acetone cyanohydrin	61. Butylamine	116. Dichlorvos
5. Acetyl bromide	62. Butyric acid	117. Dieldrin
6. Acetyl chloride	63. Cadmium acetate	118. Diethylamine
7. Acrolein	64. Cadmium bromide	119. Dimethylamine
8. Acrylonitrile	65. Cadmium chloride	120. Dinitrobenzene
9. Adipic acid	66. Calcium arsenate	121. Dinitrophenol
10. Aldrin	67. Calcium arsenite	122. Dinitrotoluene
11. Allyl alcohol	68. Calcium carbide	123. Diquat
12. Allyl chloride	69. Calcium chromate	124. Disulfoton
13. Aluminum sulfate	70. Calcium cyanide	125. Diuron
14. Ammonia	71. Calcium dodecylbenzenesulfonate	126. Dodecylbenzenesulfonic acid
15. Ammonium acetate	72. Calcium hypochlorite	127. Endosulfan
16. Ammonium benzoate	73. Captan	128. Endrin
17. Ammonium bicarbonate	74. Carbaryl	129. Epichlorohydrin
18. Ammonium bichromate	75. Carbofuran	130. Ethion
19. Ammonium bifluoride	76. Carbon disulfide	131. Ethylbenzene
20. Ammonium bisulfite	77. Carbon tetrachloride	132. Ethylenediamine
21. Ammonium carbamate	78. Chlordane	133. Ethylene dibromide
22. Ammonium carbonate	79. Chlorine	134. Ethylene dichloride
23. Ammonium chloride	80. Chlorobenzene	135. Ethylene diaminetetracetic acid (EDTA)
24. Ammonium chromate	81. Chloroform	136. Ferric ammonium citrate
25. Ammonium citrate	82. Chloropyrifos	137. Ferric ammonium oxalate
26. Ammonium fluoroborate	83. Chlorosulfonic acid	138. Ferric chloride
27. Ammonium fluoride	84. Chromic acetate	139. Ferric fluoride
28. Ammonium hydroxide	85. Chromic acid	140. Ferric nitrate
29. Ammonium oxalate	86. Chromic sulfate	141. Ferric sulfate
30. Ammonium silicofluoride	87. Chromous chloride	142. Ferrous ammonium sulfate
31. Ammonium sulfamate	88. Cobaltous bromide	143. Ferrous chloride
32. Ammonium sulfide	89. Cobaltous formate	144. Ferrous sulfate
33. Ammonium sulfite	90. Cobaltous sulfamate	145. Formaldehyde
34. Ammonium tartrate	91. Coumaphos	146. Formic acid
35. Ammonium thiocyanate	92. Cresol	147. Fumaric acid
36. Ammonium thiosulfate	93. Crotonaldehyde	148. Furfural
37. Amyl acetate	94. Cupric acetate	149. Guthion
38. Aniline	95. Cupric acetoarsenite	150. Heptachlor
39. Antimony pentachloride	96. Cupric chloride	151. Hexachlorocyclopentadiene
40. Antimony potassium tartrate	97. Cupric nitrate	152. Hydrochloric acid
41. Antimony tribromide	98. Cupric oxalate	153. Hydrofluoric acid
42. Antimony trichloride	99. Cupric sulfate	154. Hydrogen cyanide
43. Antimony trifluoride	100. Cupric sulfate ammoniated.	155. Hydrogen sulfide
44. Antimony trioxide	101. Cupric tartrate	156. Isoprene
45. Arsenic disulfide	102. Cyanogen chloride	157. Isopropanolamine dodecylbenzenesulfonate
46. Arsenic pentoxide	103. Cyclohexane	158. Kelthane
47. Arsenic trichloride	104. 2,4-D acid (2,4- dichlorophenoxyacetic acid)	159. Kepone
48. Arsenic trioxide	105. 2,4-D esters (2,4- dichlorophenoxyacetic acid esters)	160. Lead acetate
49. Arsenic trisulfide	106. DDT	161. Lead arsenate
50. Barium cyanide	107. Diazinon	162. Lead chloride
51. Benzene	108. Dicamba	163. Lead fluoborate
52. Benzoic acid	109. Dichlobenil	164. Lead fluoride
53. Benzonitrile	110. Dichlone	165. Lead iodide
54. Benzoyl chloride	111. Dichlorobenzene	166. Lead nitrate
55. Benzyl chloride	112. Dichloropropane	
56. Beryllium chloride		
57. Beryllium fluoride		

**Exhibit 2F-5. Hazardous Substances**

167. Lead stearate	223. Propionic anhydride	272. Uranyl nitrate
168. Lead sulfate	224. Propylene oxide	273. Vanadium penoxide
169. Lead sulfide	225. Pyrethrins	274. Vanadyl sulfate
170. Lead thiocyanate	226. Quinoline	275. Vinyl acetate
171. Lindane	227. Resorcinol	276. Vinylidene chloride
172. Lithium chromate	228. Selenium oxide	277. Xylene
173. Malathion	229. Silver nitrate	278. Xylenol
174. Maleic acid	230. Sodium	279. Zinc acetate
175. Maleic anhydride	231. Sodium arsenate	280. Zinc ammonium chloride
176. Mercaptodimethur	232. Sodium arsenite	281. Zinc borate
177. Mercuric cyanide	233. Sodium bichromate	282. Zinc bromide
178. Mercuric nitrate	234. Sodium bifluoride	283. Zinc carbonate
179. Mercuric sulfate	235. Sodium bisulfite	284. Zinc chloride
180. Mercuric thiocyanate	236. Sodium chromate	285. Zinc cyanide
181. Mercurous nitrate	237. Sodium cyanide	286. Zinc fluoride
182. Methoxychlor	238. Sodium dodecylbenzenesulfonate	287. Zinc formate
183. Methyl mercaptan	239. Sodium fluoride	288. Zinc hydrosulfite
184. Methyl methacrylate	240. Sodium hydrosulfide	289. Zinc nitrate
185. Methyl parathion	241. Sodium hydroxide	290. Zinc phenolsulfonate
186. Mevinphos	242. Sodium hypochlorite	291. Zinc phosphide
187. Mexacarbate	243. Sodium methylate	292. Zinc silicofluoride
188. Monoethylamine	244. Sodium nitrite	293. Zinc sulfate
189. Monomethylamine	245. Sodium phosphate (dibasic)	294. Zirconium nitrate
190. Naled	246. Sodium phosphate (tribasic)	295. Zirconium potassium fluoride
191. Naphthalene	247. Sodium selenite	296. Zirconium sulfate
192. Naphthenic acid	248. Strontium chromate	297. Zirconium tetrachloride
193. Nickel ammonium sulfate	249. Strychnine	
194. Nickel chloride	250. Styrene	
195. Nickel hydroxide	251. Sulfuric acid	
196. Nickel nitrate	252. Sulfur monochloride	
197. Nickel sulfate	253. 2,4,5-T acid (2,4,5-trichlorophenoxyacetic acid)	
198. Nitric acid	254. 2,4,5-T amines (2,4,5-trichlorophenoxy acetic acid amines)	
199. Nitrobenzene	255. 2,4,5-T esters (2,4,5-trichlorophenoxy acetic acid esters)	
200. Nitrogen dioxide	256. 2,4,5-T salts (2,4,5-trichlorophenoxy acetic acid salts)	
201. Nitrophenol	257. 2,4,5-TP acid (2,4,5-trichlorophenoxy propanoic acid)	
202. Nitrotoluene	258. 2,4,5-TP acid esters (2,4,5-trichlorophenoxy propanoic acid esters)	
203. Paraformaldehyde	259. TDE (tetrachlorodiphenyl ethane)	
204. Parathion	260. Tetraethyl lead	
205. Pentachlorophenol	261. Tetraethyl pyrophosphate	
206. Phenol	262. Thallium sulfate	
207. Phosgene	263. Toluene	
208. Phosphoric acid	264. Toxaphene	
209. Phosphorus	265. Trichlorofon	
210. Phosphorus oxychloride	266. Trichloroethylene	
211. Phosphorus pentasulfide	267. Trichlorophenol	
212. Phosphorus trichloride	268. Triethanolamine dodecylbenzenesulfonate	
213. Polychlorinated biphenyls (PCB)	269. Triethylamine	
214. Potassium arsenate	270. Trimethylamine	
215. Potassium arsenite	271. Uranyl acetate	
216. Potassium bichromate		
217. Potassium chromate		
218. Potassium cyanide		
219. Potassium hydroxide		
220. Potassium permanganate		
221. Propargite		
222. Propionic acid		