



## **ENVIRONMENTAL PROTECTION AGENCY**

### **40 CFR Chapter I**

**[EPA-HQ-OPPT-2011-1019; FRL-9909-13]**

**RIN 2070-AJ93**

### **Hydraulic Fracturing Chemicals and Mixtures**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Advance notice of proposed rulemaking.

**SUMMARY:** In its response to a citizen petition submitted under section 21 of the Toxic Substances Control Act (TSCA), EPA indicated that as a first step, it would convene a stakeholder process to develop an approach to obtain information on chemical substances and mixtures used in hydraulic fracturing. To gather information to inform EPA's proposal, the Agency is issuing this advance notice of proposed rulemaking (ANPR) and initiating a public participation process to seek comment on the information that should be reported or disclosed for hydraulic fracturing chemical substances and mixtures and the mechanism for obtaining this information. This mechanism could be regulatory (under TSCA section 8(a) and/or section 8(d)), voluntary, or a combination of both and could include best management practices, third-party certification and collection, and incentives for disclosure of this information. In addition, the Agency is seeking comment on ways of minimizing reporting burdens and costs and of avoiding the duplication of state and other federal agency information collections, while at the same time maximizing data available for EPA risk characterization, external transparency, and public understanding. Also, EPA is soliciting comments on incentives and recognition programs that could be used to support the development and use of safer chemicals in hydraulic fracturing.

**DATES:** Comments must be received on or before [*insert date 90 days after date of publication in the Federal Register*].

**ADDRESSES:** Submit your comments, identified by docket identification (ID) number EPA-HQ-OPPT-2011-1019, by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the online instructions for submitting comments.

- *Mail:* Document Control Office (7407M), Office of Pollution Prevention and Toxics (OPPT), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001.

- *Hand Delivery:* To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <http://www.epa.gov/dockets/contacts.html>.

Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at <http://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** *For technical information contact:* Mark Seltzer, Chemical Control Division (7405M), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460-0001; telephone number: (202) 564-2901; email address: [seltzer.mark@epa.gov](mailto:seltzer.mark@epa.gov).

*For general information contact:* The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554-1404; email address: [TSCA-Hotline@epa.gov](mailto:TSCA-Hotline@epa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. General Information**

#### *A. Does this Action Apply to Me?*

This action is directed to the public in general. This action, however, may be of interest to

you if you manufacture (including import), process, or distribute chemical substances or mixtures (Ref. 1) used in any type or method of hydraulic fracturing. This may include businesses that fall under North American Industry Classification System (NAICS) codes 2111 (oil and gas extraction) and/or 2131 (support activities for mining). EPA anticipates that this ANPR may also be of interest to states, tribes, and other industries. Since additional entities may also be interested, the Agency has not attempted to describe all the specific entities that may be interested in this action.

*B. What Should I Consider as I Prepare My Comments for EPA?*

1. *Submitting confidential business information (CBI).* Do not submit this information to EPA through regulations.gov or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD-ROM that you mail to EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for preparing your comments.* When submitting comments, remember to:

i. Identify the document by docket ID number and other identifying information (subject heading, **Federal Register** date and page number).

ii. Follow directions. The Agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.

iii. Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.

iv. Describe any assumptions and provide any technical information and/or data that you

used.

v. If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced. Likewise, if you estimate the universe of affected reporters, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

vi. Provide specific examples to illustrate your concerns and suggest alternatives.

vii. Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

viii. Make sure to submit your comments by the comment period deadline identified.

## **II. Background**

EPA received a petition from Earthjustice and 114 other groups on August 4, 2011, requesting that EPA issue TSCA section 4 and TSCA section 8 rules requiring toxicity testing of chemicals and mixtures used in oil and gas exploration and production; reporting to EPA, among other things, the identity of those chemicals and mixtures; and submitting to EPA health and safety studies on the chemicals and mixtures (Ref. 2). On November 2, 2011, EPA provided an initial response to the petition (Ref. 3). In that response, EPA denied the TSCA section 4 request for issuance of a test rule because the petition did not set forth sufficient facts to conclude that it was “necessary to issue” the requested TSCA section 4 rule, as required by TSCA section 21(b)(1). On November 23, 2011, EPA granted in part and denied in part the TSCA section 8(a) and section 8(d) requests by limiting the scope from chemicals and mixtures used in all processes of oil and gas exploration and production to chemical substances and mixtures used in hydraulic fracturing (Refs. 4 and 5). EPA published a document with the Agency’s rationale for its response to the petition in the **Federal Register** of July 11, 2013 (Ref. 5). To facilitate public comment, the Agency stated its intent to publish an ANPR to identify key issues for further

discussion and analysis.

EPA maintains continuing coordination with its Federal partners in planning information reporting rules that will complement the Bureau of Land Management's (BLM) proposed regulation: Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands (78 FR 31636, May 24, 2013). BLM subsequently issued a supplemental proposal and extension of comment period for that proposed rule (78 FR 34611, June 10, 2013). The intent of these dialogues is to ensure both EPA's and BLM's efforts provide useful information for assessment and disclosure purposes, while not overly burdening reporting entities.

*A. What Action is the Agency Taking?*

With this ANPR, EPA is initiating a stakeholder process to request input on various aspects of obtaining information on chemical substances and mixtures used in hydraulic fracturing for oil and gas exploration and production to further the purposes of TSCA (TSCA section 2 sets forth the findings, policy, and intent of Congress in enacting TSCA) and other federal government objectives that can be informed through this process. As part of this effort, EPA seeks input on appropriate disclosure to ensure that information about the chemicals and mixtures used in hydraulic fracturing activities is provided to the public in a transparent fashion. These activities include the injection of water, chemicals, proppant, and/or tracers to prepare geologic formations for hydraulic fracturing, complete a hydraulic fracturing stimulation stage, evaluate the extent of resulting fractures, or ensure future ability to continue enhancement of production through stimulation by hydraulic fracturing. During each hydraulic fracturing stimulation stage, pressurized fluids containing carrier fluids such as water or gas and any combination of proppant and chemicals are injected into wells to fracture portions of the formation surrounding a selected well section. As discussed in more detail in Unit IV., EPA is requesting comment on the information that should be obtained or disclosed and the mechanism

for obtaining or disclosing this information about chemicals and mixtures used in hydraulic fracturing. This mechanism could be regulatory (under TSCA section 8(a) and/or section 8(d)), voluntary (e.g., under the Pollution Prevention Act (PPA) (42 U.S.C. 13101 *et seq.*)), or a combination of both. EPA is also seeking comment on best management practices for the generation, collection, reporting and/or disclosure of public health and environmental information from or by companies that manufacture, process, or use chemical substances or mixtures in hydraulic fracturing activities—that is, practices or operations that can be implemented and verified toward achieving protection of public health and the environment—and whether voluntary third-party certification, and incentives for disclosure could be valuable tools for improving chemical safety. In addition, the Agency is seeking comment on ways to minimize reporting burdens and costs, avoid duplication of efforts, and maximize transparency and public understanding. Finally, EPA is soliciting comments on incentives and recognition programs that could be used to support the development and use of safer chemicals in hydraulic fracturing.

*B. What is the Agency's Authority for this Action?*

TSCA section 8(a) (15 U.S.C. 2607(a)) authorizes EPA to promulgate rules under which manufacturers (including importers) and processors of chemical substances must maintain records and submit information as the EPA Administrator may reasonably require. TSCA section 8(a) also authorizes EPA to promulgate rules under which manufacturers and processors of mixtures must maintain records and submit information to the extent the EPA Administrator determines the maintenance of records or submission of reports, or both, is necessary for the effective enforcement of TSCA. TSCA section 8(a) generally excludes small manufacturers and processors of chemical substances or mixtures from the reporting requirements (see 15 U.S.C. 2507(a)). This general exclusion has been codified at 40 CFR 704.5 and 712.25. However, EPA

is authorized by TSCA section 8(a)(3)(A)(ii) to require TSCA section 8(a) reporting from small manufacturers and processors with respect to any chemical substance or mixture that is the subject of a rule proposed or promulgated under TSCA section 4, 5(b)(4), or 6, or that is the subject of an order in effect under TSCA section 5(e), or that is the subject of relief granted pursuant to a civil action under TSCA section 5 or 7. TSCA section 8(a) also notes that, to the extent feasible, the EPA Administrator must not require reporting under TSCA section 8(a)(1) that is unnecessary or duplicative.

TSCA section 8(d) (15 U.S.C. 2607(d)) authorizes EPA to require the submission of lists of health and safety studies conducted or initiated by or for, or known to or reasonably ascertainable by manufacturers, processors, and distributors of (and any person who proposes to manufacture, process, or distribute) any chemical substance or mixture. Certain types or categories of studies may be excluded “if the Administrator finds that submission of lists of such studies are unnecessary to carry out the purposes of [TSCA]” (see TSCA section 8(d)(1)). TSCA section 8(d) also authorizes EPA to require the submission of copies of studies on these lists or copies of studies that are otherwise known by the person submitting the list.

The Pollution Prevention Act (PPA) (42 U.S.C. 13101 *et seq.*) makes pollution prevention the national policy of the United States. The PPA identifies an environmental management hierarchy in which pollution “should be prevented or reduced whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or release into the environment should be employed only as a last resort...” (42 U.S.C. 13103). Among other requirements, the PPA directs EPA to develop improved methods of coordinating, streamlining and assuring public access to data collected under Federal environmental statutes; facilitate the adoption of source-

reduction techniques by businesses; and establish an annual awards program to recognize a company or companies that operate outstanding or innovative source reduction programs.

### **III. Overview of Information Collection Authority under Sections 8(a) and 8(d) of TSCA**

#### *A. TSCA Section 8(a)*

TSCA section 8(a) gives EPA authority to require, by rulemaking, chemical manufacturers and processors to maintain records and submit to EPA such reports as EPA may reasonably require, including reports concerning the following, insofar as it is known to or reasonably ascertainable by the person making the report:

- The common or trade name, the chemical identity, and the molecular structure of each chemical substance or mixture for which such a report is required.
- The categories or proposed categories of use of each chemical substance or mixture.
- The total amount of each chemical substance or mixture manufactured or processed, reasonable estimates of the total amount to be manufactured or processed, the amount manufactured or processed for each of its categories of use, and reasonable estimates of the amount to be manufactured or processed for each of its categories of use or proposed categories of use.
- A description of the byproducts resulting from the manufacture, processing, use, or disposal of each chemical substance or mixture.
- All existing data concerning the environmental and health effects of each chemical substance or mixture.
- The number of individuals exposed, and reasonable estimates of the number who will be exposed, to each chemical substance or mixture in their places of employment and the duration of such exposure.
- The manner or method of disposal of each chemical substance or mixture, and any

subsequent changes to such manner or method.

*B. TSCA Section 8(d)*

TSCA section 8(d) authorizes EPA to require manufacturers, processors, and distributors of any chemical substance or mixture and persons who propose to manufacture, process, or distribute in commerce any chemical substance or mixture to submit health and safety studies to EPA. Examples of health and safety studies can be found in 40 CFR 716.3, and include:

- Epidemiological or clinical studies.
- Studies of occupational exposure.
- Health effects studies.
- Ecological effects studies.
- Assessments of environmental exposure.
- Environmental fate studies.
- Health and safety studies related to surface or ground water sampling and analyses that

are aggregated and analyzed to measure exposure.

**IV. Request for Comment**

EPA is requesting comment on the design and scope of potential regulatory or voluntary approaches, or combination of both approaches, to obtain information on chemical substances and mixtures used in hydraulic fracturing. EPA invites comments on all aspects of this ANPR, including the description of hydraulic fracturing activities presented in Unit II.A. Comments should provide enough detail and contain sufficient supporting information in order for the Agency to understand the issues raised and give them the fullest consideration. Comments should include alternatives, rationales, benefits, technological and economic feasibility (including costs), and supporting data. Supporting information should include any information that substantiates your conclusions and recommendations, including, but not limited to:

Experiences, data, analyses, studies and articles, and standard professional practices. If referring to a particular well site as an example, please identify the company name of the well site operator, well name, latitude and longitude coordinates and American Petroleum Institute (API) identification number, if available.

*A. Overall Approach to Reporting and Disclosure of Chemical Substances and Mixtures Used in Hydraulic Fracturing*

In this ANPR, EPA is seeking comment on what information should be reported to EPA (or through a CBI cleared third-party certifier) or disclosed publically (by EPA) regarding the identity, quantities, types and circumstances of uses of chemical substances and mixtures used in hydraulic fracturing, as well as what types of health and safety studies should be reported or disclosed. EPA is seeking comment on whether and how data that are claimed to be trade secrets, or CBI, could be reported to EPA (or a third-party certifier) and then aggregated and disclosed while protecting the identities of individual products and firms. EPA is also requesting comment on the appropriate mix of voluntary disclosure and/or regulatory reporting mechanisms. The specific types of information that could be reported or disclosed are discussed in Units IV.C. and IV.G. It should be noted that TSCA section 8(e) requires manufacturers, importers, processors, and distributors to provide EPA with information on any of their chemical substances or mixtures that reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.

EPA is requesting comment on the following questions:

1. Should all information be required to be reported or should there be a voluntary mechanism for some or all information?
2. Would a combination of mandatory reporting and voluntary disclosure be effective? If so, what would that combination consist of? Why?
3. What types of information, if any, should be required to be reported? Why?

4. How could any required reporting activities be designed to better facilitate compliance?
5. What types of information, if any, should be reported and/or disclosed voluntarily?  
Why?
6. What are the best management practices for the generation, collection, reporting and/or disclosure of information from or by companies?
7. Are there particular systems in place that already use these best management practices? Please identify these systems.
8. To what extent are these best management practices widely adopted? Please provide evidence regarding the extent of use of best management practices.
9. How could incentives be structured to ensure effective voluntary disclosure of information on chemical substances and mixtures used in hydraulic fracturing?
10. Are there incentives that could be used in combination with regulatory requirements for information disclosure to promote practices that go beyond compliance (e.g., incentives that encourage reporting in addition to that required by regulation)?
11. What information collection tools and resources are available to support and promote safer chemical use and other sustainable practices (e.g., some form of cradle-to-grave chemical management)? Please explain.
12. What factors should be considered for distinguishing among different types of companies for the purpose of incentives?
13. What information collection tools and resources are available to support, incentivize, and promote safe and sustainable practices? Please explain.
14. How could collected information be used to better inform safe and sustainable practices? For example, would providing information or guidance on improved chemical use

across different types of firms involved in hydraulic fracturing better inform safe and sustainable practices?

15. What mechanisms could be developed to make information that is reported to EPA publically disclosed and available?

16. How could information reported and/or disclosed under any such mechanism be used to better inform research and development of chemical substances and mixtures used in hydraulic fracturing?

*B. Who Should Report or Disclose Information on Chemical Substances and Mixtures Used in Hydraulic Fracturing?*

TSCA section 8(a) gives EPA authority to require, by rulemaking, chemical manufacturers and processors to maintain records and submit to EPA reports about chemical substances and mixtures, as well as environmental and health data on those substances and mixtures. The hydraulic fracturing industry includes a variety of companies that could be subject to reporting under TSCA section 8(a). These companies could include chemical manufacturers, chemical suppliers who engage in processing, service providers mixing chemicals on site to create the hydraulic fracturing fluids, and service providers responsible for injecting the hydraulic fracturing fluid into the well to fracture the formation. EPA is requesting comment on whether, in the context of a potential reporting and/or disclosure program, all or any companies should be required to report or whether a specific type or types of company (e.g., chemical supplier) should be required to report and other types (e.g., service provider) be encouraged to report voluntarily.

1. If any companies are required to report, should different types of companies be required to report different data elements? Please explain.

2. Should manufacturers (including importers), processors, or both be required to report under TSCA section 8(a)? Why or why not?

3. Are there additional NAICS codes in addition to 2111 (oil and gas extraction) and 2131 (support activities for mining) that would need to be included in order to cover chemical manufacturers (including importers) and processors in a potential reporting and/or disclosure program?

4. In what ways do the responsibilities of manufacturers and processors (Ref. 6) overlap? What activities associated with hydraulic fracturing are carried out by the well operator at the well site? EPA understands that service providers or well operators often process chemicals at the drilling site.

5. Would manufacturers (including importers), service providers, well operators, or all three, know how a chemical substance or mixture is used at well sites? If all types of firms have this information, which type, if any, should be required to report? If neither well operators, nor service providers, nor manufacturers (including anyone who imports chemicals or otherwise undertakes activities that meet the definition of “manufacture” at 40 CFR 704.3) know how a chemical is used at well sites, who would know and how might that information be obtained?

6. If voluntary mechanisms are used for obtaining information, what mechanisms (e.g., incentive programs) should EPA consider in order to encourage consistent reporting and/or disclosure from different types of companies? Would some mechanisms be more effective for one type of company than another?

7. Should there be different incentives for different types of companies (e.g., manufacturers vs. processors)?

8. What information collection tools and resources are available to support and promote safe and sustainable practices? Please explain.

*C. Scope of Reporting or Disclosure of Information on Chemical Substances and Mixtures Used in Hydraulic Fracturing*

In this ANPR, EPA is seeking comment on the information that should be reported or

disclosed regarding chemical substances and mixtures used in hydraulic fracturing. EPA is exploring various regulatory approaches, voluntary approaches or a combination of both for obtaining this information.

As described in Unit III.A., TSCA section 8(a) gives EPA authority to require, by rulemaking, chemical manufacturers and processors to maintain records and submit to EPA such reports as EPA may reasonably require. EPA expects that data obtained could be aggregated to provide a national list of the chemical substances and mixtures used in hydraulic fracturing, providing the Agency with the ability to determine which chemicals are used most frequently. For chemicals that have not been previously well-characterized in terms of their chemical, physical, and toxicological properties, EPA may conduct research to better understand these properties in order to perform a basic risk characterization. Information that could be required from manufacturers (including importers) and processors under a potential reporting program could include:

1. Basic company information (i.e., company name, mailing address, website, and technical contact information).
2. Steps involved in processing chemicals or mixtures on site before injection. Typical composition and performance standard of hydraulic fracturing fluid as an end use product, before injection.
3. Steps involved in processing chemicals or mixtures for reuse, recycling, and/or reprocessing in the hydraulic fracturing operation.
4. Hydraulic fracturing fluid composition:
  - i. Common name or trade name of each chemical product in the hydraulic fracturing fluid and a description of each product's function.
  - ii. Chemical identity (chemical name and Chemical Abstracts Service Registry Number)

of each chemical substance in each product.

iii. Total volume of the carrier fluid and percentage of the carrier fluid that makes up the total hydraulic fracturing fluid (e.g., water volume and percentage of water in the hydraulic fracturing fluid).

iv. Actual amount of each chemical substance or product in the hydraulic fracturing fluid in order to understand the loading (e.g., mass or volume).

5. Production type (i.e., gas and/or oil).

6. Frequency of use of the chemical substance or mixture for hydraulic fracturing (e.g., number of times or per fracture stage or number of wells).

7. Number of workers exposed or likely to be exposed to the chemical substance or mixture.

8. All existing data concerning the human and environmental health effects of the chemical substance or mixture.

9. Some chemical substances and mixtures used in hydraulic fracturing may react to create other chemical substances and mixtures as products within an on-site mixing apparatus or in the well that is being fractured. EPA is requesting comments on which reporting elements should be included:

i. If EPA were to require reporting, how should EPA address chemical substances and mixtures which are formed on site? Why?

ii. Is there other information obtainable under TSCA section 8(a) that should be included in a proposed TSCA section 8(a) rule? What are the chemical safety benefits (e.g., potential reduction of risk to human health and environment) of obtaining this information? Explain.

iii. Should EPA consider including reporting on any combination of water and/or chemicals introduced or intended to be introduced into an oil or gas well for the purpose of

maintaining or improving the function and productivity of the well, including recovery methods, (e.g., acid treatments, corrosion inhibitors, scale reducers, biocides)? Why or why not? EPA is interested in information regarding the frequency, duration, concentration, and volume of use of such chemicals or chemical mixtures to enhance the Agency's understanding of well maintenance practices, in order to evaluate the need for additional disclosure.

10. While EPA could require manufacturers and processors to report this information, the Agency could also encourage companies engaged in hydraulic fracturing to voluntarily disclose it. EPA is requesting comments on reporting elements which should be included:

i. Which elements (as discussed earlier in Unit IV.C.), if any, may benefit from being proposed as part of a TSCA section 8(a) rule? Which elements, if any, may benefit better from being reported and/or disclosed under a voluntary program?

ii. Are there data elements (from those discussed earlier in Unit IV.C.) for which a hybridized reporting and/or disclosure system (e.g., some regulatory elements, some voluntary elements) would be more efficient or beneficial?

#### *D. Use of Third-Parties*

EPA is requesting comments on the use of third-parties for the collection of information on chemical substances used in hydraulic fracturing and/or to certify the use of best practices.

1. Should EPA consider implementing third-party certification (for certifying reporting, practices and other aspects) and/or third-party collection of information about hydraulic fracturing operations in addition to or in lieu of a mandatory reporting or voluntary disclosure program?

2. What would such a certification program look like?

3. Are there existing programs that already certify best practices? Are they effective?

Are they independent? Could they be improved? How?

4. What should be considered (e.g. standards for third-parties, standards for collecting chemical information, costs) in implementing a third-party program?

5. How should chemical information be managed by third-parties? Are there specific roles that third-parties should have in data management? Please explain.

6. How should a third-party certifier be funded? How could perceived or actual bias be minimized?

#### *E. Reporting Threshold and Frequency of Reporting or Disclosure*

EPA is interested in comments regarding the threshold for the size of entities that should be required or encouraged to report or disclose information on chemical substances and mixtures used in hydraulic fracturing and environmental and health data on those substances and mixtures. EPA is also interested in comments regarding how often reporting or disclosure should take place:

1. Are there thresholds that might be appropriate to limit reporting by small manufacturers or processors under either a regulatory or a voluntary program (e.g., the thresholds that define “small manufacturer” in 40 CFR 704.3 and 712.25)? Why? If available, how would the recommended reporting threshold affect cost to the reporting entity? How might different reporting thresholds affect the usefulness of the data provided?

2. Given possible changes in the composition of hydraulic fracturing fluids over time and changes in ownership of a well, how often and when should an entity report information to EPA or publicly disclose it?

3. What would be the effect of changes in the frequency of reporting and/or disclosure on the overall cost of reporting or disclosure? What would be the effect of changes in level of aggregation or other aspects of reporting and/or disclosure?

#### *F. Data Collection Efficiency*

EPA believes that any mechanism for reporting and/or disclosure of information on chemical substances and mixtures should be structured in a manner that minimizes the potential for duplication and overlap.

1. EPA requests comment on how best to minimize duplicative reporting and/or disclosure requirements, particularly for companies that may also report to the BLM, state agencies, and to other parties. For example, should EPA limit its data collection to items not collected by other parties? How much overlap is acceptable?

2. How can the Agency achieve the goal of efficient data collection while also maximizing transparency and public understanding?

3. In order to encourage transparency and information sharing while minimizing duplication, what information collection repository or database should EPA use? Should EPA develop a repository or use an existing one such as FracFocus (Ref. 7) or <http://www.data.gov>? If an existing repository is recommended, indicate which repository and why. Are any changes or enhancements recommended to this existing repository?

4. EPA believes that any TSCA reporting requirements should complement existing reporting programs and data sources, such as state databases and websites like FracFocus in order to avoid duplication. How could this be achieved?

#### *G. Health and Safety Studies of Chemicals and Mixtures Used in Hydraulic Fracturing*

EPA is seeking comment on potential options for reporting or disclosure of health and safety studies for chemical substances and mixtures used in hydraulic fracturing.

As described in Unit III.B., TSCA section 8(d) authorizes EPA to require manufacturers, processors, and distributors of any chemical substance or mixture and persons who propose to manufacture, process, or distribute in commerce any chemical substance or mixture to submit health and safety studies to EPA. One mechanism for the collection of these studies is TSCA

section 8(d). Other mechanisms could include voluntary approaches. EPA is requesting comment on the types of companies that would report or disclose health and safety studies. EPA also is requesting comment on whether companies should be required to report studies or be encouraged to disclose studies, or whether a combination of regulatory and voluntary approaches should be used to obtain health and safety studies.

1. Should all manufacturers (including importers), processors, and distributors provide lists or copies of health and safety studies or should reporting only be required of some types of companies? Why or why not?

2. Are there existing mechanisms in place, including non-regulatory mechanisms, for EPA to obtain these studies? If not, what would be an effective regulatory approach and/or voluntary mechanism for EPA to obtain these studies?

3. Is there an approach that more effectively encourages further health and safety studies?

4. Some chemical substances and mixtures used in hydraulic fracturing are more studied than others. Some are considered to be well-characterized in terms of hazard and exposure information. If EPA were to require reporting, should EPA limit reporting requirements to the chemical substances and mixtures that EPA believes are not well-characterized? Why?

5. If a TSCA section 8(d) rule were promulgated, should it require reporting of studies for all chemical substances and mixtures used in hydraulic fracturing or only a subset? Why? If only certain chemicals should be included in the rule, which ones should EPA include?

6. Are there particular types of studies that should be required to be submitted or should all health and safety studies be required to be submitted? Why?

7. Are there studies that are of greater interest if they are conducted by a particular entity, e.g., service providers? For example, an assessment of environmental exposure may be

viewed as more important because of the environment that is the focus of the study.

8. Would it be more efficient (timely and cost effective) to submit health and safety studies to a third-party? Why or why not? If so, why and what type of third-party?

#### *H. Safer Chemicals and Transparency*

Incentives and recognition programs could be used to support the development and use of safer chemicals (both those created deliberately and inadvertently) in hydraulic fracturing. Safer chemicals are generally less toxic to human health and the environment, and are less persistent and bioaccumulative than their alternatives. Under an EPA-sponsored voluntary initiative, EPA could provide resources and recognition for companies committed to promoting and using safe and sustainable practices. Such a voluntary program could help companies meet corporate sustainability goals by providing the means to, and an objective measure of, environmental stewardship. Information that could be collected or disclosed under such a voluntary program could be used to verify a company's eligibility for award or recognition in relation to identified measures and goals.

There are existing programs that encourage the development of safer chemicals (e.g., the Green Chemistry program and the Sustainable Futures program) or the use of safer substitutes (e.g., Design for the Environment) which may serve as models for application to hydraulic fracturing. A similar program focusing on chemicals used in hydraulic fracturing could speed adoption by well owners, operators and suppliers of safer chemicals. The program could also increase public understanding about chemical choice and use in hydraulic fracturing.

EPA would like to determine whether these programs could be used as possible models for consideration of chemicals and mixtures used in hydraulic fracturing and whether there are other programs that would be more effective. In order to determine whether replacement chemicals are safer, it would be important to take into account the effectiveness and potential

associated risks with the alternative chemical. EPA requests comment on strategies for creating incentives and voluntary approaches for the development and use of safer chemicals.

1. Are there other TSCA sections that could also further support the use and development of safer chemicals more effectively?
2. What programs are appropriate to encourage the use of safer chemicals already on the market?
3. For this industry, are existing programs that encourage the development of safer chemicals appropriate? Could EPA change those programs to make them more effective in inducing well operators to use safer chemicals? How?

## **V. References**

The following is a list of the materials that are specifically referenced in this document. The docket identified under **ADDRESSES** includes these references and other information considered by EPA. For assistance, please consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

1. Toxic Substances Control Act, section 3 (15 U.S.C. 2602).
2. Earthjustice and 114 other organizations. Letter from Deborah Goldberg, Earthjustice to Wendy Cleland-Hamnett, Director, Office of Pollution Prevention and Toxics. Re: Citizen Petition Under Toxic Substances Control Act Regarding the Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production. August 4, 2011. Available on-line at: [http://www.epa.gov/oppt/chemtest/pubs/Section\\_21\\_Petition\\_on\\_Oil\\_Gas\\_Drilling\\_and\\_Frackin\\_g\\_Chemicals8.4.2011.pdf](http://www.epa.gov/oppt/chemtest/pubs/Section_21_Petition_on_Oil_Gas_Drilling_and_Frackin_g_Chemicals8.4.2011.pdf).
3. EPA. Letter from EPA Assistant Administrator Steven A. Owens to Deborah Goldberg, Earthjustice, Re: TSCA Section 21 Petition Concerning Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production. November 2, 2011. Available on-line

at: <http://www.epa.gov/oppt/chemtest/pubs/SO.Earthjustice.Response.11.2.pdf>.

4. EPA. Letter from Assistant Administrator Steven A. Owens to Deborah Goldberg, Earthjustice, Re: TSCA Section 21 Petition Concerning Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production. November 23, 2011. Available on-line at:

[http://www.epa.gov/oppt/chemtest/pubs/EPA\\_Letter\\_to\\_Earthjustice\\_on\\_TSCA\\_Petition.pdf](http://www.epa.gov/oppt/chemtest/pubs/EPA_Letter_to_Earthjustice_on_TSCA_Petition.pdf).

5. EPA. Chemical Substances and Mixtures Used in Oil and Gas Exploration or Production; TSCA Section 21 Petition Reasons for Agency Response. **Federal Register** (78 FR 41768, July 11, 2013) (FRL-9339-4).

6. TSCA Statutory Definitions Document. February 11, 2014.

7. FracFocus Chemical Disclosure Registry. Available on-line at:

<http://www.fracfocus.org>.

## **VI. Statutory and Executive Order Reviews**

Under Executive Orders 12866, entitled “Regulatory Planning and Review” (58 FR 51735, October 4, 1993) and 13563, entitled “Improving Regulation and Regulatory Review” (76 FR 3821, January 21, 2011), this is a “significant regulatory action” because it raises novel legal and/or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under these Executive Orders and any changes made in response to OMB recommendations have been documented in the docket for this action.

Because this document does not impose or propose any requirements, and instead seeks comments and suggestions for the Agency to consider in possibly developing a subsequent proposed rule, the various other review requirements that apply when an agency imposes requirements do not apply to this action. Nevertheless, as part of your comments on this ANPR, you may include any comments or information that could help the Agency to assess the potential impact of a subsequent regulatory action on small entities pursuant to the Regulatory Flexibility

Act (5 U.S.C. 601 *et seq.*); to consider voluntary consensus standards pursuant to section 12(d) of the National Technology Transfer and Advancement Act (15 U.S.C. 272 note); to consider environmental health or safety effects on children pursuant to Executive Order 13045, entitled “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885, April 23, 1997); to consider human health or environmental effects on minority or low-income populations pursuant to Executive Order 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (59 FR 7629, February 16, 1994); or to consider potential impacts to state and local governments or tribal governments.

The Agency will consider such comments during the development of any subsequent rulemaking as it takes appropriate steps to address any applicable requirements.

## **List of Subjects in 40 CFR Chapter I**

Environmental protection, Chemicals, Confidential business information, Exploration and production, Fracking, Hazardous substances, Hydraulic fracturing, Oil and gas, Reporting and recordkeeping.

Dated: May 9, 2014.

Gina McCarthy,

*Administrator.*

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