Case Studies for the 2020 Chemical Data Reporting

U.S. Environmental Protection Agency
Office of Pollution Prevention and Toxics

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INTRODUCTION

This document presents case studies to help you to report for 2020 Chemical Data Reporting (CDR) rule. EPA updated the 2016 case studies document to illustrate specific reporting requirements which were published as part of the CDR Revisions Rule (published March 17, 2020). The case studies also address general reporting issues from previous submission periods. **These case studies are not based on actual data, but are hypothetical situations generated to assist submitters in completing the 2020 Form U.**

This document is intended solely as guidance. This guidance is not a regulation and is not a substitute for the CDR regulations located at 40 CFR Part 711. Nothing in this document serves to supersede or alter existing regulatory requirements or to impose any new legally binding requirements on EPA, state/local agencies, or the regulated community. The general description provided in this document may not apply to a particular situation based on the circumstances. Furthermore, interested parties remain free to raise questions or objections about the substance and application of the guidance as they arise in a particular situation. EPA retains the discretion to adopt approaches on a case-by-case basis that differ from those described in this guidance where appropriate. This document may be revised periodically without public notice.

This document is designed to supplement *Instructions for Reporting: 2020 TSCA Chemical Data Reporting (Instructions for Reporting)*. Additional information on the CDR reporting requirements is located in the *Instructions for Reporting*. If you have specific questions about your reporting requirements after reviewing the CDR guidance materials, you may contact the TSCA Hotline at (202) 554-1404 or by email at tsca-hotline@epa.gov, or contact the CDR team at eCDRweb@epa.gov.

The Crosswalk provides an overview of the CDR data elements that are discussed in each Case Study.

CROSSWALK: CDR REPORTING TOPICS COVERED IN THE CASE STUDIES

Topic	Case Studies								
	A	**B**	**C**	**D**	**E**	**F**	**G-1**	**G-2**	**CS-1**
Completing Section 2 of Form U									
Chemical Identification Information	X								X
2019 Production Volume Information	X								X
Exported Volume and Volume Used On Site	X	X							X
2016, 2017, and 2018 Production Volumes	X								X
Recycled Chemicals			X						
Byproduct Chemicals			X						
Physical Forms				X					X
Joint Submissions (Primary Submitter)							X		
Completing Section 2.D.1 of Form U									
Industrial Processing and Use Scenarios					X				X
Number of Industrial Workers					X				X
Number of Industrial Sites					X				X
Completing Section 2.D.2 of Form U									
Commercial and Consumer Use Scenarios						X			X
Maximum Concentration						X			X
Number of Commercial Workers						X			X
Function of a Chemical						X			X
Completing Secondary Form									
Joint Submissions (Secondary Submitter)								X	

Note: Each example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. This Crosswalk provides an overview of the CDR data elements that are discussed in each Case Study. Situations associated with co-manufactured chemicals are not covered in this document. Please see the Fact Sheet: Co-Manufactured Chemicals for information.

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EXAMPLE A: CHEMICAL IDENTIFICATION AND PRODUCTION VOLUME
Section 2.A. Chemical Identification Information and Section 2.C. Production Volumes

This example illustrates how to properly report:

- Your chemical identification information
- Your site's production and use for calendar year 2019
- Your site's production volume for calendar years 2016, 2017, and 2018

Scenario

Your Plano, TX site began domestically manufacturing a new chemical substance in 2016. The chemical substance was added to the TSCA Inventory under the CA Index Name, Chemical X and CASRN 123-45-6. The identity of the chemical was not claimed confidential. Production of Chemical X was 30,000 lb in 2016; 15,000 lb in 2017; 15,000 lb in 2018; and 20,000 lb in 2019. You did not import any additional volumes of the chemical. In 2019, your site used 10,000 lb of Chemical X as an intermediate in the manufacture of an industrial product, 5,000 lb was exported to a company in Europe, and 5,000 lb was sent to a site owned by your company in Freeport, TX.

How will you report under CDR?

Note that the production volume for Chemical X met the 25,000 lb reporting threshold for at least one calendar year between 2016 and 2019 (in 2016); therefore, your chemical substance is subject to CDR requirements.

<u>Chemical Identification Information for Non-Confidential Substances</u>

- Because the identity of Chemical X is not confidential and is identified on the non-CBI TSCA Inventory, you do not check CBI for Chemical Identification. Note that you may claim the chemical identity confidential only if the identity of Chemical X is treated as confidential in the Master Inventory File as of the time the report is submitted.
- e-CDRweb, the CDR electronic reporting tool, uses the Agency's Substance Registry Services (SRS) to enable you to select the TSCA Inventory-listed name and identifying number for your chemical substance. From within e-CDRweb, use the SRS search tool to search for the CASRN and CAS Index Name that identify your chemical substance (Figure 1).
- The Number ID Code (Figure 1) is populated automatically by the system. The Number ID Code corresponds to the type of identifying number you entered ("CASRN" code corresponds to CAS Registry Number).

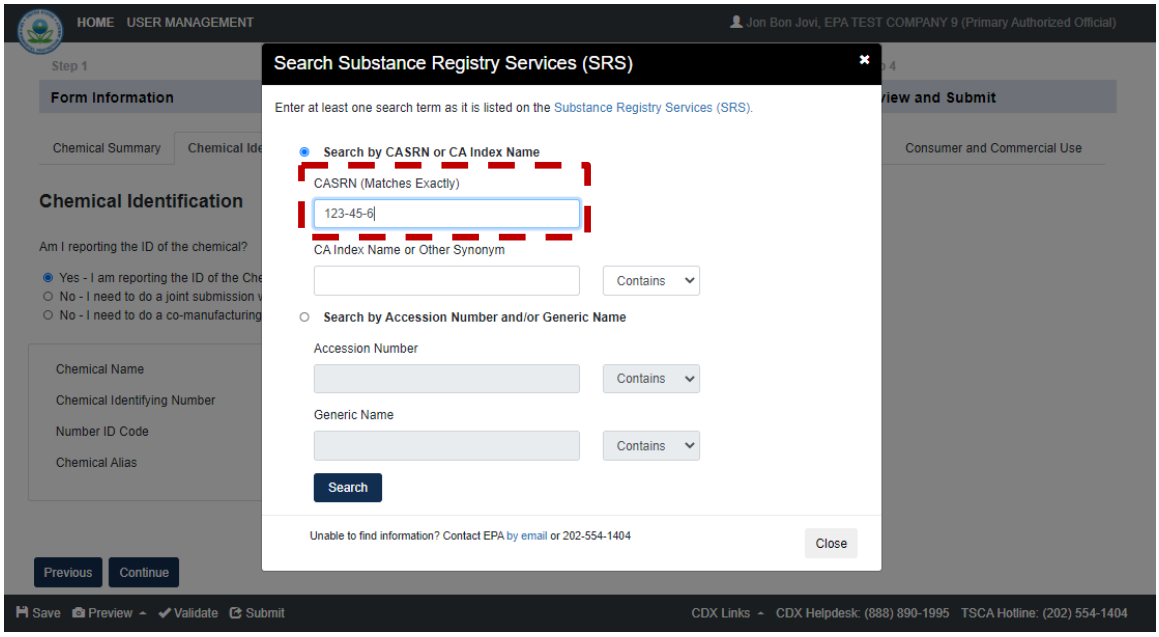


Figure 1. Chemical Identity Information (SRS Search)

Production Volumes for Calendar Years 2016, 2017, 2018

- You are required to report the production volumes for calendar years 2016, 2017, and 2018 (Figure 2).

Production Volume and other Information for Calendar Year 2019

- Production volume: Because the production volume for one of the calendar years between 2016 and 2019 (2016) meets the 25,000 lb threshold, you are required to provide detailed manufacturing, processing, and use information for your 2019 site activities even if your 2019 production volume is less than 25,000 lb.
- Physically at site: In 2019, your site domestically manufactured 20,000 lb of Chemical X and did not import the chemical (Figure 3) You do not have to indicate whether the chemical was ever physically at the site because you did not conduct import activities. The 'Chemical never physically at site' indication applies only to imported chemicals.
- Used on site: Of the 20,000 lb manufactured in 2019, 50 percent, or 10,000 lb, was used on site for downstream processing (as an intermediate) and 25 percent, or 5,000 lb, was exported to Europe (Figure 3).
- Processing & use reporting: The remaining production volume (5,000 lb) was transferred to another company-owned site (Freeport site) for use in the production of other chemicals. Use of Chemical X at the Freeport site is not reported in the manufacturing section (Section 2.C) but will need to be reported in the processing and use section (Section 2.D). Note that the use of 10,000 lb on site as an intermediate should also be reported in Section 2.D. (Section 2.D is not illustrated for this example.)

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The Crosswalk in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

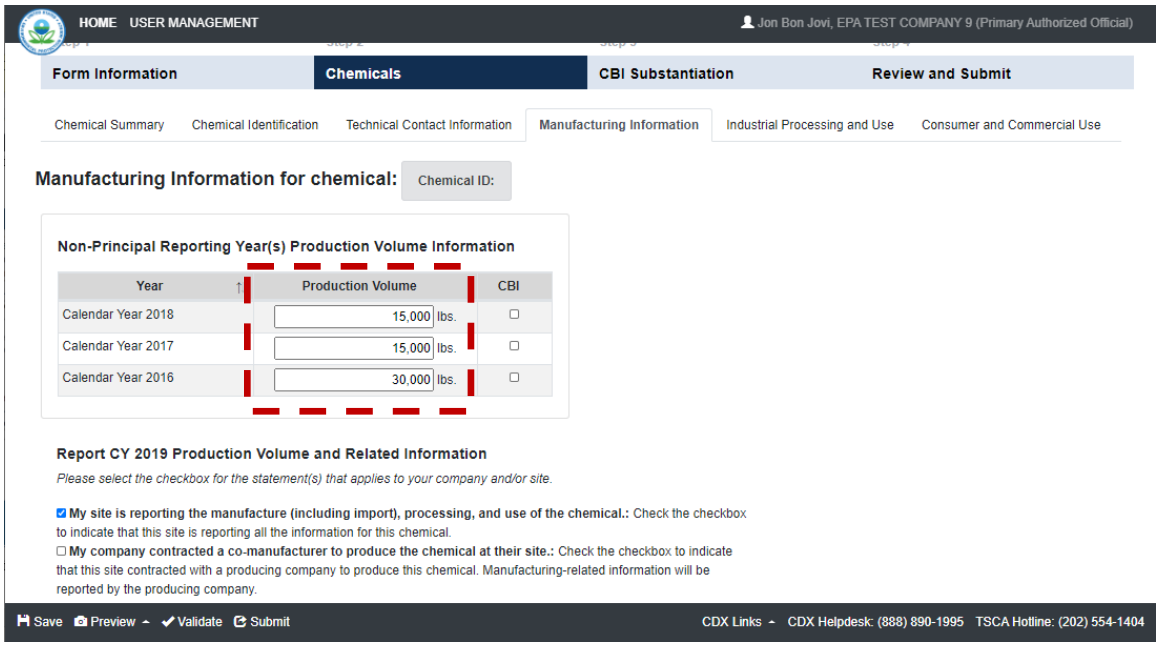


Figure 2. Chemical X Production Volume for 2016 to 2018

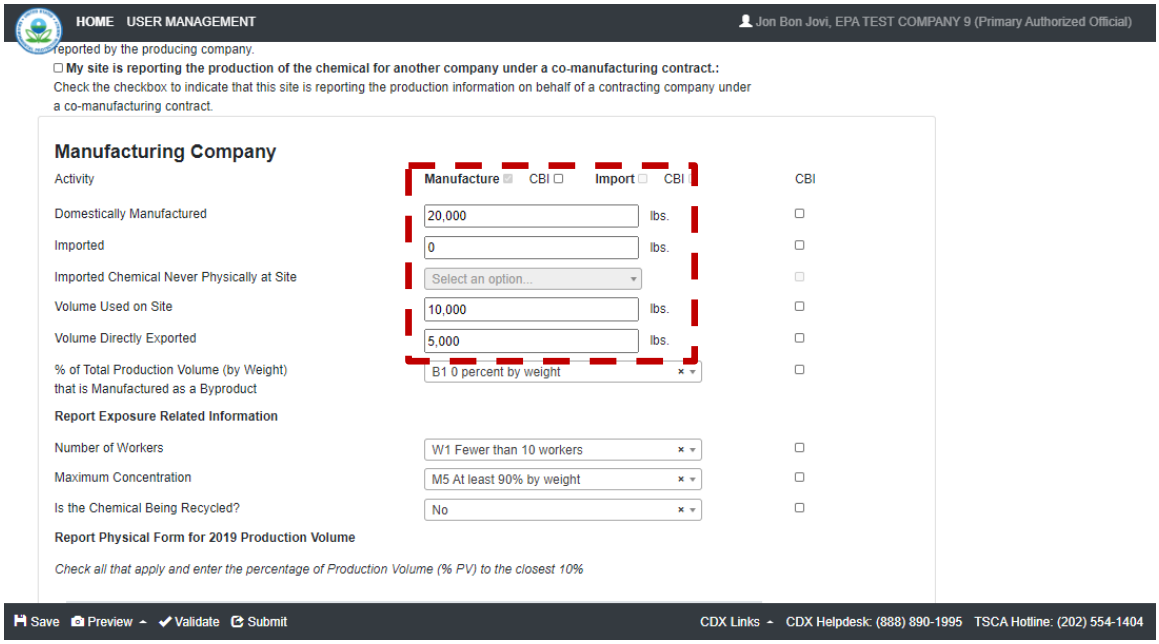


Figure 3. Chemical X Production Volume for 2019

EXAMPLE B: PRODUCTION VOLUME
Section 2.C. Volume Exported and Volume Used On Site

This example illustrates how to properly report:

- The volumes exported and used on site for a reportable chemical substance.

Scenario

Your company manufactures Chemical X, a photosensitive component used in the formulation of photoresist for use in semiconductor manufacturing. Your company began production of Chemical X in 2016 and has since been ramping up production through 2019. Your company produced 10,000 lb of Chemical X in 2016, 15,000 lb in 2017, 20,000 lb in 2018 and 25,000 lb in 2019. Each year, your company has directly exported 60 percent of the total production volume of Chemical X to Asia and has used the other 40 percent on site for the formulation of photoresist. The photoresist is then exported for use at semiconductor manufacturing facilities in Japan and Korea.

How will you report under CDR?

The total production volume for one of the calendar years from 2016 to 2019 (2019) is greater than or equal to 25,000 lb; therefore, Chemical X is subject to CDR requirements. A screen shot from the reporting tool is presented in Figure 4 for Chemical X.

Volume Exported

- Your company exports a portion of the manufactured volume of Chemical X and should report this activity for 2019. CDR defines the export volume as the volume of domestically manufactured or imported chemical that is directly exported and not domestically processed or used. Therefore, the volume of Chemical X that is further formulated on site into a photoresist formulation and then exported should not be included in the total volume exported.

- In 2019, the total volume of Chemical X that is directly exported is 15,000 lb, or 60 percent of the total production volume. The remaining 40 percent of the volume of Chemical X, or 10,000 lb, is used on site (Figure 4).

- Note that industrial processing and use information (Section 2.D.1 of Form U) should be reported for the 10,000 lb of Chemical X used on site for photoresist formulation. Consumer and commercial use information (Section 2.D.2 of Form U) is not required because the formulation containing Chemical X is exported. You can check "N/A" (not applicable) in Section 2.D.2 of Form U.

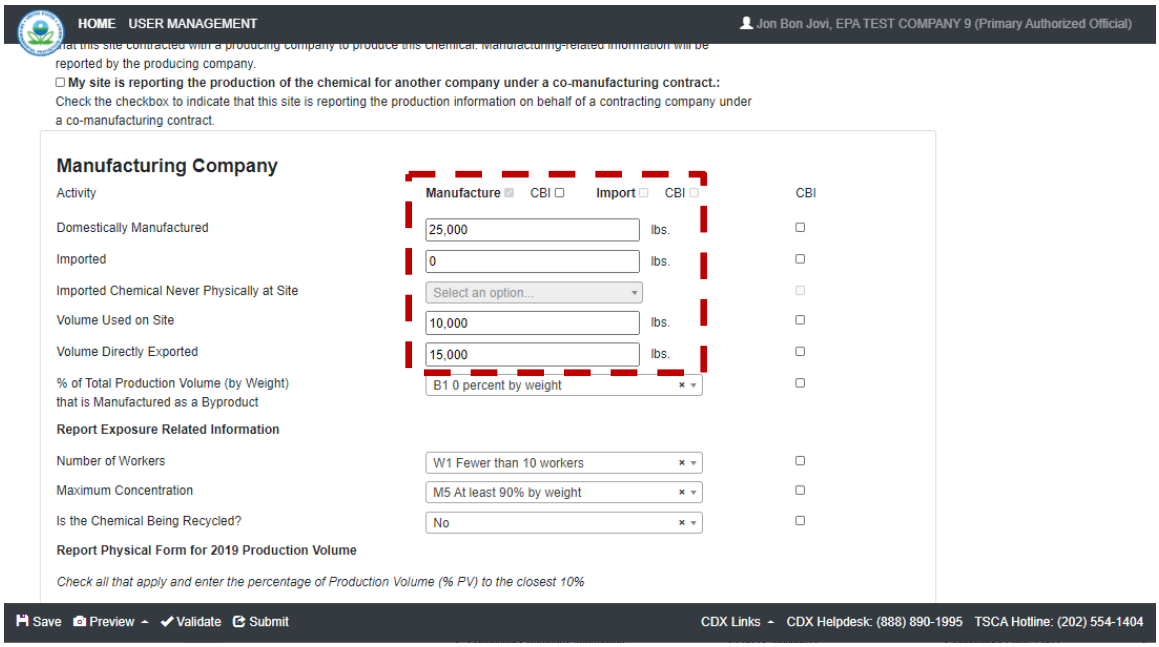


Figure 4. Chemical X Production Volume

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

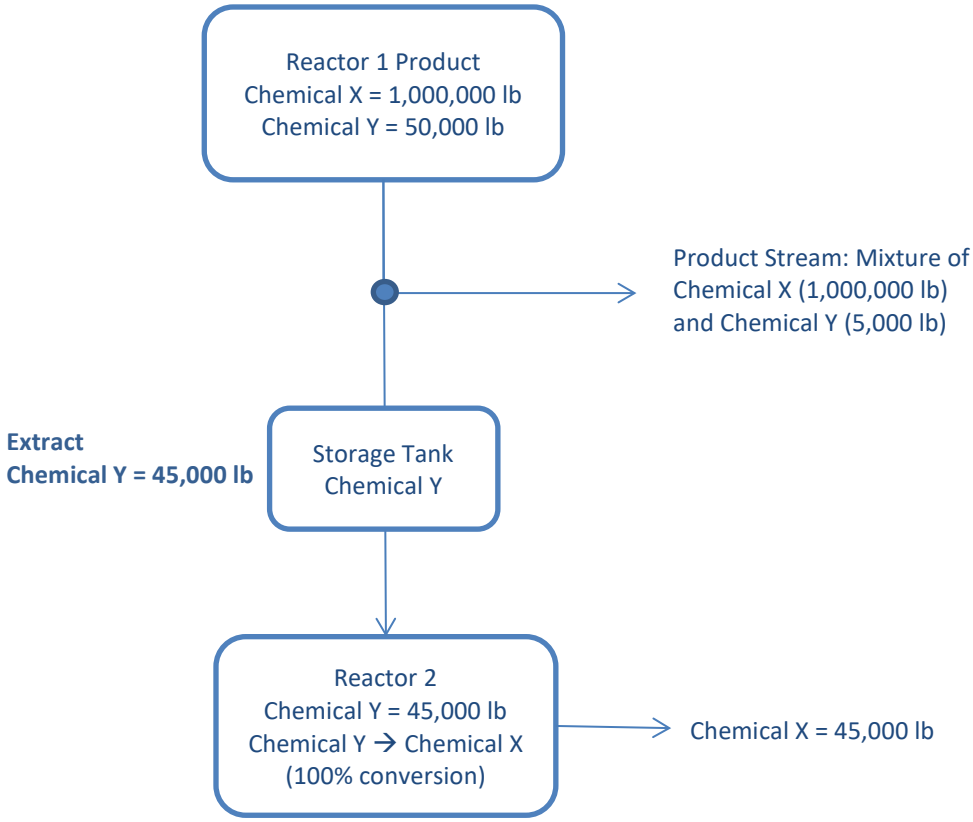
EXAMPLE C: VOLUME OF BYPRODUCTS MANUFACTURED
Section 2.C. Manufacturing Information

This example illustrates how to properly report:

- The 2016 through 2019 production volumes for your byproduct chemical
- Percent of Total Production Volume (by weight) that is manufactured as a byproduct chemical (voluntary data element)
- Whether your byproduct chemical is recycled, remanufactured, reprocessed, or reused

Scenario

Chemical X is an industrial chemical. The process your site in Mobile, Alabama uses to manufacture Chemical X results in the manufacture of a byproduct, Chemical Y. In 2019, you manufactured one million lb of liquid Chemical X and 50,000 lb of liquid Chemical Y. Your site can successfully isolate 90 percent, or 45,000 lb, of Chemical Y from the liquid mixture. The percent that is manufactured as a byproduct, Chemical Y (50,000 lb), of the total production volume (1,050,000 lb for both chemicals) is 21 percent. Chemical Y is stored and then reprocessed on-site to yield additional volume of Chemical X (100% conversion). The remaining volume of Chemical Y, or 5,000 lb, remains in solution with Chemical X, and does not contribute to the performance of Chemical X.



CDR Reporting requirements:
Chemical X = 1,045,000 lb (Reactor 1 volume + Reactor 2 volume; requires reporting under CDR)
Chemical Y = 45,000 lb (used for a non-exempt commercial purpose, requires reporting under CDR)
Chemical Y = 5,000 lb (not used for a commercial purpose, does not need to be reported)

How will you report under CDR?
Chemical Y is a byproduct of your process that is used for a non-exempt commercial purpose; therefore, Chemical Y is reportable under the CDR rule. Note that you are also required to report for Chemical X since it is an intentionally manufactured chemical. The total volume of Chemical X manufactured, 1.045 million lb (1,000,000 lb manufactured in Reactor 1 plus 45,000 lb manufactured in Reactor 2) should be reported under CDR. Screen shots from the reporting tool are presented in Figure 5 for Chemical X and Figure 6 for Chemical Y.

Chemical Recycle and % Byproduct

- Your site separates Chemical Y from the process and uses the chemical to produce more of Chemical X. Therefore, you should identify in Form U that Chemical Y is being recycled regardless of the volume you recycle.

- For the "% of Total Production Volume (by Weight) that is Manufactured as a Byproduct," if reporting you should enter the appropriate code: for Chemical Y enter B4 -100% and for Chemical X enter B1- 0%. Note that this is a voluntary data element and is not required.
- When you complete Form U for Chemical X, you do not check this block since Chemical X is not being recycled, reused, remanufactured, or reprocessed.

2016 through 2019 Production and Use Volumes

- Chemical Y is domestically manufactured. You should check "My site is reporting the manufacture (including import), processing, and use of the chemical" box.

- Only a portion of the total manufactured volume of Chemical Y is reportable under CDR. Of the 50,000 lb of Chemical Y manufactured as a byproduct, 45,000 lb was extracted from Reactor 1 and used as an intermediate to produce additional volume of Chemical X. Because Chemical Y is stored before it is used to produce Chemical X, it is isolated and the non-isolated intermediate exemption does not apply.

    - Therefore, 45,000 lb of Chemical Y is considered a byproduct with a non-exempt commercial purpose that requires reporting under the CDR rule (Figure 6).
    - The remaining 5,000 lb of Chemical Y is unintentionally present with Chemical X (i.e., it is an impurity). As an impurity, this remaining 5,000 lb of Chemical Y is not reportable under CDR.

- The reportable volume of Chemical Y is reprocessed and consumed to manufacture additional volume of Chemical X. The total volume used on site is 45,000 lb. (Figure 6)

- Chemical Y is not exported. You should indicate zero pounds exported.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

Additional information about byproducts and intermediates is available in:

- Instructions for Reporting
- Byproduct and Recycling Scenarios
- Fact Sheet: Non-Isolated Intermediates

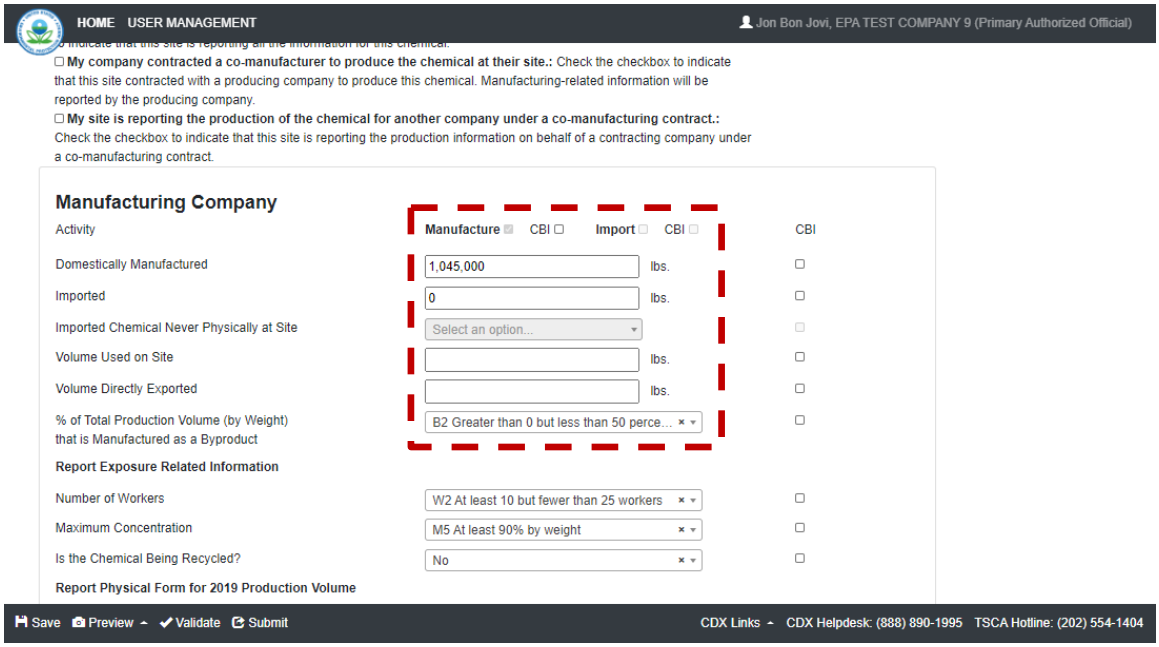


Figure 5. Chemical X Production Volume

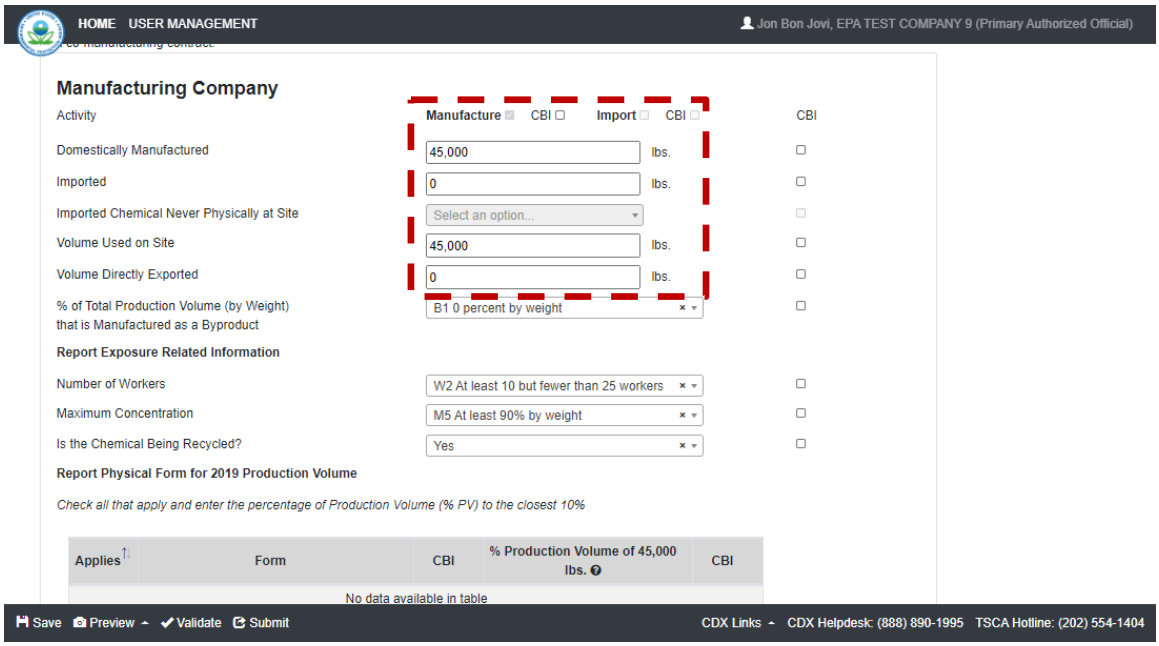


Figure 6. Chemical Y Production Volume

EXAMPLE D: PHYSICAL FORMS
Section 2.C. Physical Forms

This example illustrates how to properly report:
- Multiple physical forms of the reportable chemical substance
- Percent of the total production volume for each physical form

Scenario
Your company manufactures Chemical X which is used as a component in the production of an article. In order to meet the requirements of the various processes used by your customers, you manufacture Chemical X in three different physical forms. In 2019, your company manufactured 33,500 lb of Chemical X as a dry powder, 33,500 lb as pellets, and 33,000 lb as a wet cake for a total production volume of 100,000 lb.

How will you report under CDR?
The total production volume for 2019 (or any calendar year between 2016 and 2019) is greater than or equal to 25,000 lb; therefore, Chemical X is subject to CDR requirements. In 2019, Chemical X is manufactured in three different physical forms and all forms should be reported.

Physical Form Identification

- Chemical X is manufactured as dry powder, pellets, and wet cake (i.e., water wet solid). You should indicate these physical forms in the appropriate check boxes (Figure 7).

Physical Form and Percent Production Volume

- Your site should report percent production volume for each physical form based on the total domestically manufactured and imported volume. In 2019, your site manufactured 100,000 lb of Chemical X.
- The dry powder form of Chemical X accounts for 33,500 lb, or 33.5 percent of the total volume. Reported percentage values are rounded to the nearest 10 percent. You would report 30 percent for this physical form.
- The pellet form of Chemical X accounts for 33,500 lb, or 33.5 percent of the total volume. Reported percentage values are rounded to the nearest 10 percent. You would report 30 percent for this physical form.
- The wet cake form of Chemical X accounts for 33,000 lb, or 33 percent of the total volume. Reported percentage values are rounded to the nearest 10 percent. You would report 30 percent for this physical form.
- Rounding percentage values may result in a total percent of production volume that is less than or greater than 100 percent. In this example, the total percentage of the production volume reported for the different physical forms is 90 percent.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

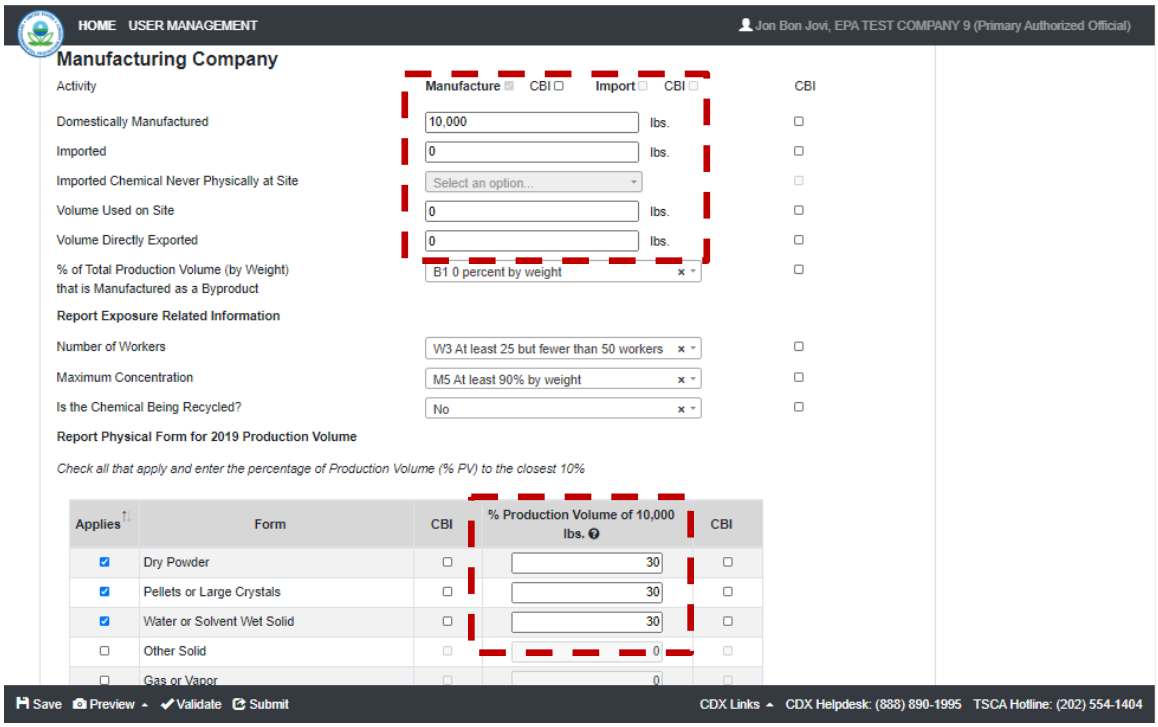


Figure 7. Chemical X Production Volume and Physical Form

EXAMPLE E: INDUSTRIAL PROCESSING AND USE
Section 2.D.1 Industrial Processing and Use

This example illustrates how to properly report:

- The industrial sector codes that apply to your chemical substance
- Your industrial processing and use scenarios, including repackaging
- The percent production volume for each industrial processing and use scenario that you identified for your chemical

Scenario

Your site conducted the following activities for Chemical Y in 2019:

- Domestically manufactured 170,000 lb;
- Imported a total of 30,000 lb from Europe; and
- Exported 16,000 lb to South America.

Of the domestically manufactured and imported volumes, 184,000 lb was used or processed domestically. 20,000 lb of Chemical Y in 2019 was consumed by your site in the manufacture of an organic chemical. An additional 30,000 lb of Chemical Y was sold to a customer that also used it for manufacture of an organic chemical. The remaining volume, or 134,000 lb, of Chemical Y was repackaged at one of your distribution facilities and sold for domestic use by several downstream customers for further processing into adhesive formulations for industrial textile products and wood products. You determined from your product marketing department that 78,000 lb of Chemical Y is used in industrial textile products and 56,000 lb in wood products.

How will you report under CDR?

Industrial processing and use information for Chemical Y is based on your 2019 activities. Note that you are not required to report downstream processing and use information for the exported volume of Chemical Y.

Industrial Sector Codes (IS codes)

EPA developed a list of 48 Industrial Sector (IS) codes for reporting the sectors of industry in which the chemical substances you manufacture are used or further processed. These IS codes are listed in the TSCA Chemical Data Reporting Requirements (40 CFR part 711) and reproduced in Appendix D of the *Instructions for Reporting*. Appendix D also contains the ranges of NAICS codes corresponding to each IS code.

- The IS code for organic chemical manufacturing is IS21, All other basic organic chemical manufacturing.
- The IS code for industrial textile products is IS7, Textiles, apparel, and leather manufacturing.
- The IS code for wood products is IS8, Wood product manufacturing.

Function Category Codes (FC Codes)

The Function Category (FC) codes, previously called the Industrial Function Category codes, represent the function of the chemical being reported in the particular use scenario. For the 2020 reporting period, CDR reporters should use column A in Table D-3 of the *Instructions for Reporting* for chemical substances designated in 2019 as high priority for risk evaluation (those chemicals listed in 40 CFR 711.15(b)(4)(i)(C), Table 7). Otherwise, 2020 CDR reporters should use either column A or B for all other chemical substances. For the 2024 reporting period and future submission periods, CDR Reporters should only use column A.

Industrial Processing and Use Scenarios

- Industrial processing and use scenarios identify any activities occurring with the chemical substance after it is manufactured. All industrial processing and use scenarios during 2019 at your site and your customer sites should be reported for Chemical Y.
- The downstream use of your chemical is described by a unique combination of processing and use (P/U) code, function category (FC) code, and industrial sector (IS) code. The three codes define an industrial processing and use scenario. Your site should use the identified codes to develop unique scenarios that describe the processing and use of Chemical Y, as illustrated in Figure 9.
- Repackaging of Chemical Y for distribution to downstream customers engaging in various uses should also be reported for each downstream use.
- Your site's reported percent production volume should be based on the total volume for Chemical Y (domestically manufactured and imported) at your site. In 2019, your site manufactured (including imported) a total of 200,000 lb of Chemical Y.
- Scenario 1: The first scenario is the use of Chemical Y at your site and at your customer site to manufacture another organic chemical.
    - The following codes apply to this scenario (Figure 9 and Figure 10):
        - PC – Processing as a reactant
        - IS21 – All other basic organic chemical manufacturing
        - F047 (Previously U015) – Intermediates
    - Percent production volume: 20,000 lb of the 200,000 lb manufactured was used as a reactant at your manufacturing site, or 10 percent of the production volume. Additionally, 30,000 lb, or 15 percent, was similarly used by your customer. You should report the portion of Chemical Y's volume that you use in addition to the volume used by your customer in this section. The total percent of volume used for this industrial processing and use scenario is 25 percent. This value should be rounded to the nearest 10 percent of production volume; therefore, you would report 30 percent for this scenario.

- Scenario 2: The second scenario is the repackaging of Chemical Y for distribution to downstream customers for further processing into adhesive formulations for industrial textiles.
    - The following codes apply to this scenario (Figure 10):
        - PK – Processing–repackaging
        - IS7 – Textiles, apparel, and leather manufacturing
        - F003 (Previously U002) – Adhesion/Cohesion promoter (Previously Adhesives and sealant chemicals)
    - Percent production volume: 78,000 lb of the 200,000 lb manufactured was repackaged for distribution to downstream customers for further processing in adhesive formulations for use in industrial textiles, or 39 percent of the production volume. This value should be rounded to the nearest 10 percent of production volume so you would report 40 percent for this scenario.
- Scenario 3: The third scenario is the repackaging of Chemical Y for distribution to downstream customers for further processing into adhesive formulations for wood products.
    - The following codes apply to this scenario (Figure 10):
        - PK – Processing–repackaging
        - IS8 – Wood product manufacturing
        - F003 (Previously U002) – Adhesion/Cohesion promoter (Previously Adhesives and sealant chemicals)
    - Percent production volume: 56,000 lb out of the 200,000 lb manufactured was repackaged for distribution to downstream customers for further processing in adhesive formulations for use in wood products, or 28 percent of the production volume. This value should be rounded to the nearest 10 percent of production volume so you would report 30 percent for this scenario.
- Scenario 4: The fourth scenario is the formulation of Chemical Y into an adhesive for use in industrial textiles.
    - The following codes apply to this scenario (Figure 10):
        - PF – Processing–incorporation into formulation, mixture, or reaction product
        - IS7 – Textiles, apparel, and leather manufacturing
        - F003 (Previously U002) – Adhesion/Cohesion promoter (Previously Adhesives and sealant chemicals)
    - Percent production volume: 78,000 lb of the 200,000 lb manufactured was used in industrial textiles, or 39 percent of the production volume. This value should be rounded to the nearest 10 percent of production volume so you would report 40 percent for this scenario.
- Scenario 5: The fifth scenario is the formulation of Chemical Y into an adhesive for use in wood products.
    - The following codes apply to this scenario (Figure 10):

  - PF – Processing–incorporation into formulation, mixture, or reaction product
  - IS8 – Wood product manufacturing
  - F003 (Previously U002) – Adhesion/Cohesion promoter (Previously Adhesives and sealant chemicals)
- 56,000 lb out of the 200,000 lb manufactured was used in wood products, or 28 percent of the production volume. This value should be rounded to the nearest 10 percent of production volume so you would report 30 percent for this scenario.

- Rounding percentage values may result in a total percent of production volume consumed in industrial processing and use that is less than or greater than 100 percent. Repackaging activities or multiple processing steps may result in percentages which add to greater than 100 percent. In this example, the total percent of production volume reported for industrial processing and use is 170 percent.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

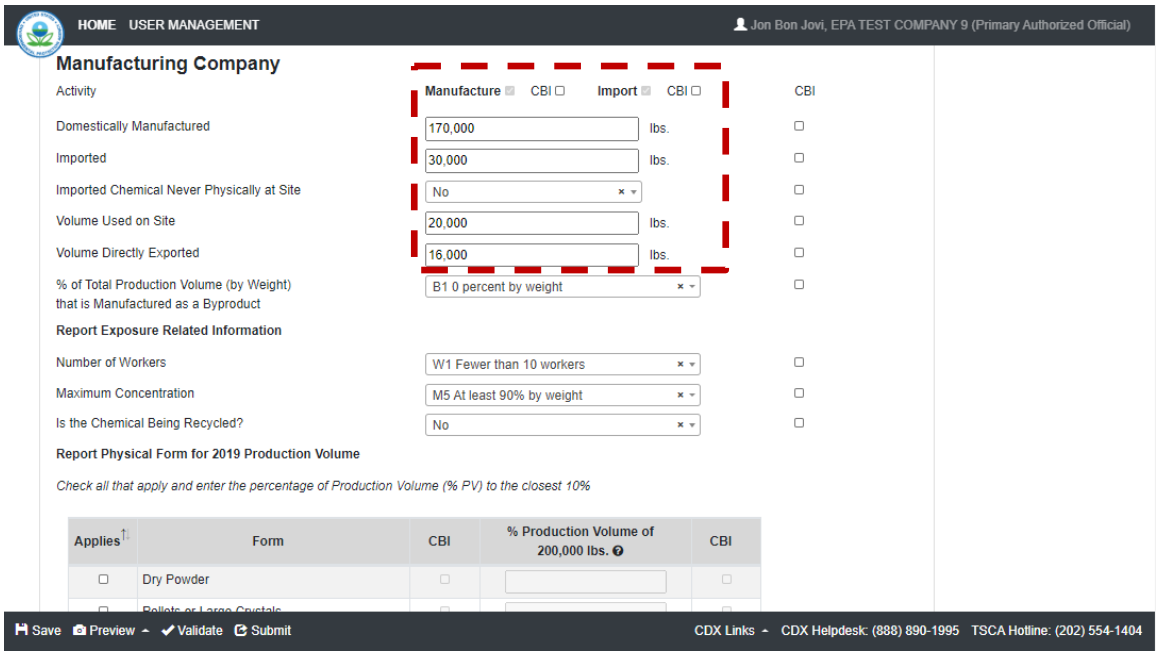


Figure 8. Chemical Y Production Volume

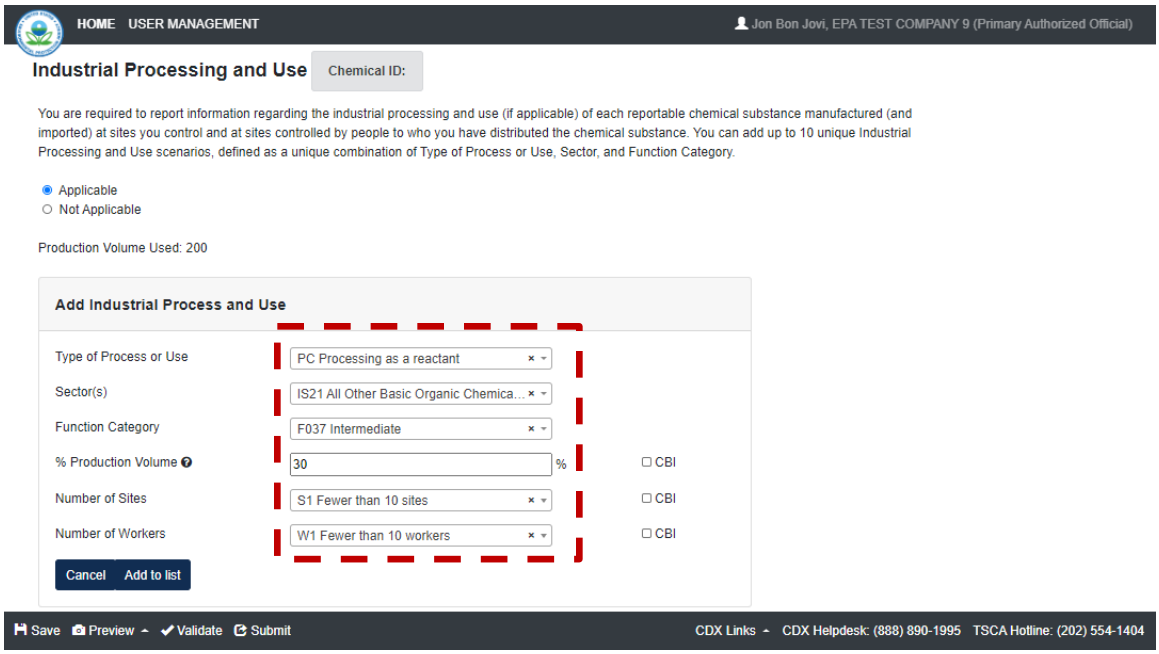


Figure 9. Chemical Y Industrial Processing and Use Data Entry

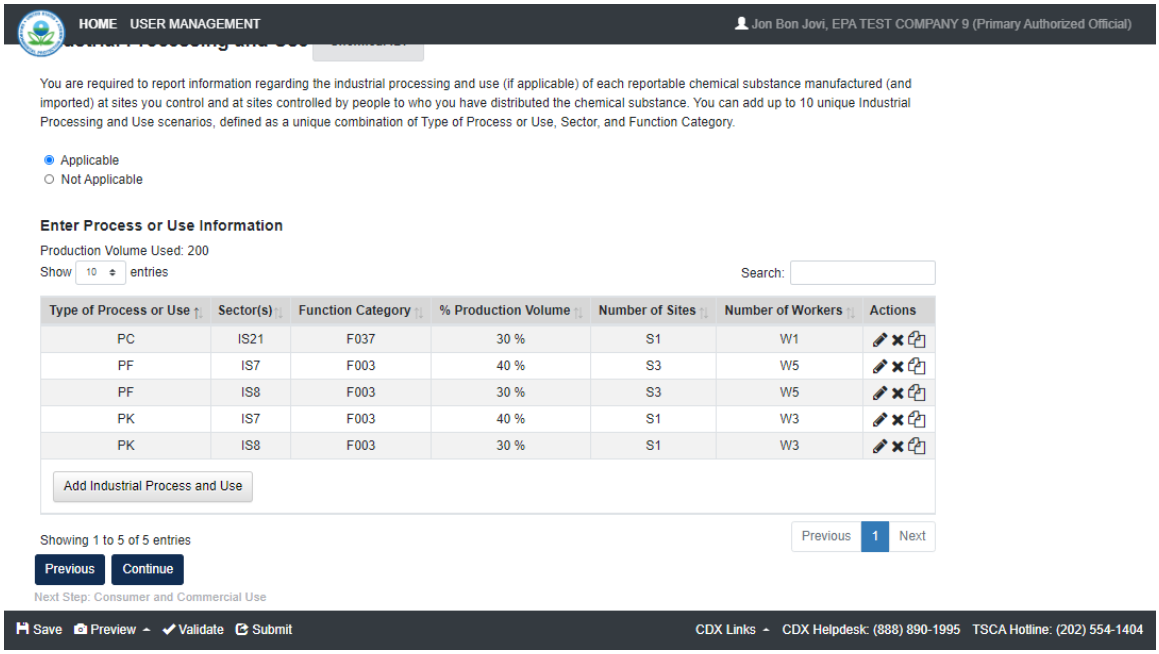


Figure 10. Chemical Y Industrial Processing and Use After Data Entry

EXAMPLE F: CONSUMER AND COMMERCIAL USE
Section 2.D.2 Consumer and Commercial Use

This example illustrates how to properly report:
- The product categories for your chemical
- The function of the chemical
- Whether your product categories are consumer and/or commercial uses
- The percent production volume for each consumer and/or commercial product category you identified for your chemical
- The number of commercial workers for your commercial use product

Scenario
Your site is the sole manufacturer of Chemical Z. The site produced 1.1 million lb of the chemical in 2019, 350,000 lb of which was sold as a surfactant for use in industrial products and the remaining for incorporation into several consumer and commercial products. After conferring with your marketing department, you were able to determine the following uses for Chemical Z:
- 350,000 lb is further processed into products used at industrial sites;
- 100,000 lb is further processed into a formulation used in hand soap;
- 280,000 lb is incorporated into all-purpose paper products; and
- 370,000 lb is used in commercial ink toners.

You obtained additional information from your marketing group on the size and number of commercial sites to which your downstream customers sell their commercial products. Based on information provided, you determined that they sell paper products to over 1,000 commercial sites with 50 to 400 employees at each site and commercial ink toners to approximately 50 sites with less than 10 employees at each site.

How will you report under CDR?
Consumer and commercial use information for Chemical Z is based on your 2019 production.

Product Category

You should use the list included in Appendix D of the *Instructions for Reporting* to determine the product categories that best fit the products manufactured by your customers. For the 2020 reporting period, CDR reporters should use column A in Table D-4 for chemical substances designated in 2019 as high priority for risk evaluation (those chemicals listed in 40 CFR 711.15(b)(4)(i)(C), Table 7). Otherwise, 2020 CDR reporters should use either column A or B for all other chemical substances. For the 2024 reporting period and future submission periods, CDR reporters should only use column A.

- Based on the available product categories, hand soap is categorized under "Liquid hand soap" (Product Category CC128; Previously C108).

- All-purpose paper products are "Other articles with routine direct contact during normal use, including paper articles" (Product Category CC302; Previously C302)
- Commercial ink toners are "Toner/printer cartridge" (Product Category CC316; Previously C306) (Figure 11 and Figure 12).

Function of the Chemical (FC Codes)

The Function Code (FC) corresponds to the function of the chemical substance, not the function of the product or end use. For the 2020 reporting period, CDR reporters should use column A in Table D-3 of the *Instructions for Reporting* for chemical substances designated in 2019 as high priority for risk evaluation (those chemicals listed in 40 CFR 711.15(b)(4)(i)(C), Table 7). Otherwise2020 CDR reporters should use either column A or B for all other chemical substances. For the 2024 reporting period and future submission periods, CDR reporters should only use column A. This code corresponds to the function of the chemical substance not the function of the product or end use.

- The scenario indicates that Chemical Z is a surfactant, therefore, the function of the chemical would be considered Surfactant (surface active agent) (F076; Previously U031).

Consumer or Commercial Use Check Boxes

- Based on information obtained from your downstream customers, your site can indicate whether the products in which Chemical Z is incorporated are used in consumer and/or commercial uses.
- A product category may be consumer use only (e.g., soaps) or commercial use only (e.g., commercial ink toners). A product category may also be for both consumer and commercial uses (e.g., paper products).(Figure 12)

Percent Production Volume

- Your site should report percent production volume of Chemical Z in each consumer and commercial product based on the total domestically manufactured and imported volume. In 2019, your site manufactured 1.1 million lb of Chemical Z.
- Liquid hand soap (CC128), account for 100,000 lb of the use of Chemical Z, or 9 percent of the total volume. This value should be rounded to the nearest 10 percent of production volume; therefore, you would report 10 percent for this product category.
- Other articles with routine direct contact during normal use, including paper articles (CC302) account for 280,000 lb of Chemical Z, or 25 percent of the total volume. This value should be rounded to the nearest 10 percent of production volume; therefore, you would report 30 percent for this product category.
- Toner/printer cartridge (CC316) account for 370,000 lb of Chemical Z, or 34 percent of the total volume. This value should be rounded to the nearest 10

percent of production volume; therefore, you would report 30 percent for this product category.

- Note that 350,000 lb of Chemical Z (or 30 percent of the total volume) is used at industrial sites and not in consumer or commercial products. Therefore, this volume is not reported in the consumer and commercial use section but would be included in Section 2.D.1, which lists industrial process and use scenarios for Chemical Z.

Number of Commercial Workers

- You are not required to report the number of commercial workers for the product category code CC128 (liquid hand soap) because it is consumer use only.
- For product category CC302 (paper articles), you are only required to report the number of workers at commercial sites (not the consumer population) in which the paper products containing Chemical Z are used (e.g., offices, printing and publishing stores). Based on the information provided by your downstream customers, 50,000 to 400,000 commercial workers may handle the paper products containing Chemical Z. You would report at least 10,000 workers (Number of Workers code W8) for this product category.
- Because product category CC316 (commercial ink toners) is a commercial use, you are required to report the number of workers at all the sites in which the commercial ink toners are used (e.g., offices, printing and publishing stores). Based on the information provided by your downstream customers, fewer than 500 commercial workers may handle the paper products containing Chemical Z. You would report "At least 100 but fewer than 500" workers (Number of Workers code W5) for this product category.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

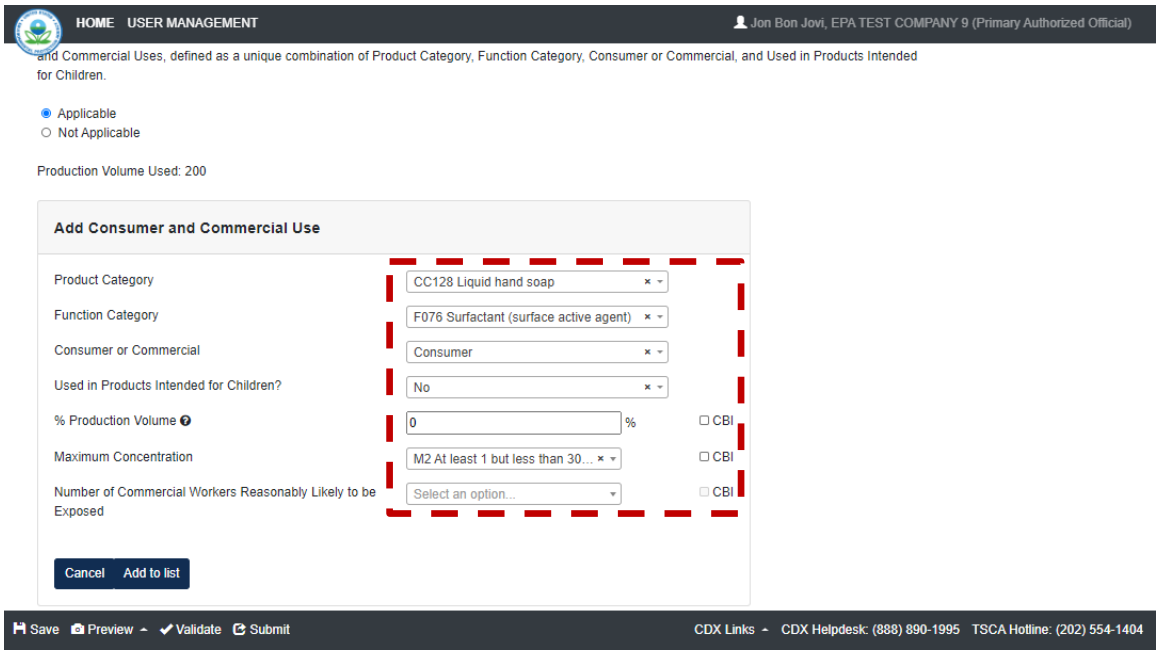


Figure 11. Chemical Z Consumer and Commercial Use Data Entry

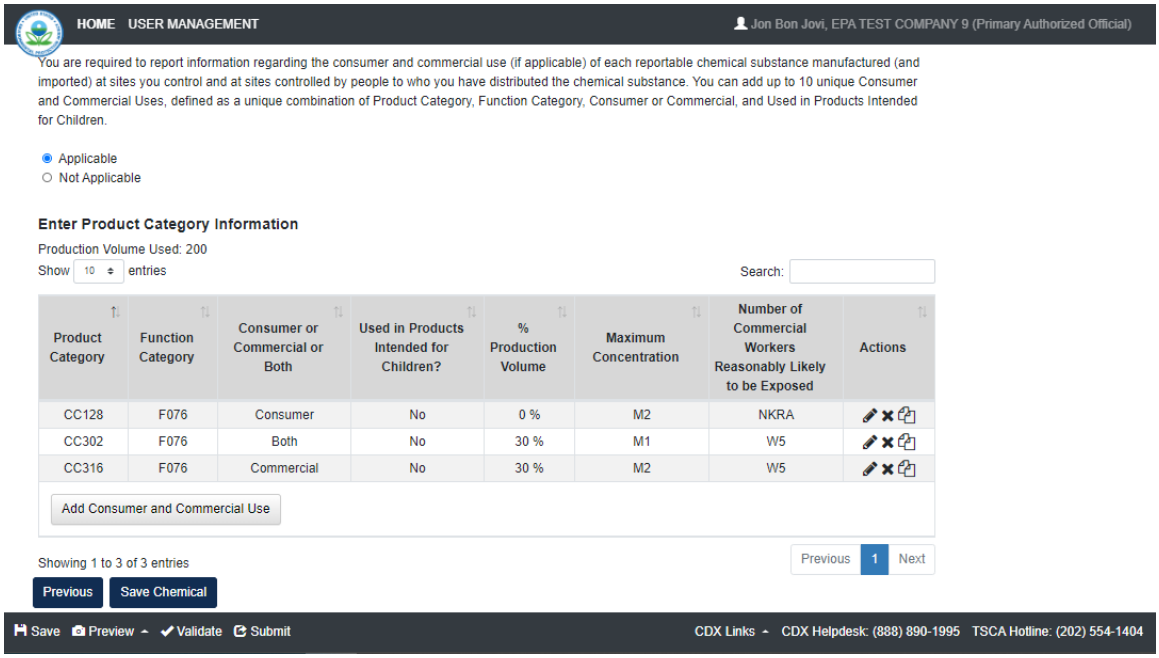


Figure 12. Chemical Z Consumer and Commercial Use After Data Entry

EXAMPLE G-1: JOINT SUBMISSION
Section 2.A. Joint Submission Information (Primary Submitter)

This example illustrates how to properly report:

- Joint submission information when you are the primary submitter for an imported chemical substance

Scenario

Your company (Company B) operates a Deepwater, NJ, site that imports a chemical substance with the trade name SpecChem123. This chemical substance is used as a specialty solvent in the manufacture of several products. Your company imports SpecChem123 from Company A, which is located in Clichy Cedex, France. Company A claims that the chemical identity of SpecChem123 is confidential and your company neither knows nor can reasonably ascertain the actual chemical identity of SpecChem123. The Deepwater site imported 300,000 lb in 2019 of SpecChem123 for use in the manufacture of Chemical Z. The address of Company A is:

Company A
99, Rue Martre
92117 Clichy Cedex
France

How will you report under CDR?

Note that the volume imported in 2019 (or in any one of the calendar years between 2016 and 2019) is greater than or equal to 25,000 lb; therefore, SpecChem123 is subject to the CDR requirements. Because the chemical identity of SpecChem123 is unknown to your company, and claimed as confidential by your supplier (Company A), you are required to take certain steps to request that Company A make a secondary submission providing the information on the chemical identity of SpecChem123 directly to EPA. Company A is a secondary submitter and is not subject to TSCA reporting; therefore, any reporting would be considered voluntary. You are the manufacturer (importer) and primary submitter of information for SpecChem123; therefore, you are responsible for providing information for Sections 2 and 3 of Form U.

<u>Joint submission designation</u>

- Because you are submitting a joint submission as the primary submitter, you should select "Add Joint submission" on the bottom left of the navigation bar in the electronic reporting tool.

<u>Chemical identification information</u>

- As the primary submitter, you must provide all information on SpecChem123 that is known to or reasonably ascertainable by your company. You should complete Section 2.A – Chemical Identification (Joint Submissions Information) located in

the Joint Submission Report folder that is accessible via the navigation bar in the electronic reporting tool.

- Provide the designated trade name for the chemical (i.e., SpecChem123) and available information about the supplier, Company A (Figure 13).

Unique Identifier for Joint Submission

- If the CA Index name and CASRN for SpecChem123 is not known or reasonably ascertainable, you must submit a request to Company A to provide information on the identity of the chemical. Submission by Company A is voluntary.

- Follow the instructions in the box labeled "Unique Identifier for Joint Submission" to communicate with the secondary submitter (Company A) via email. The software will generate an email with a unique ID number and default language that can be tailored and used to notify your secondary submitter of the partial CDR submission, and to request a voluntary submission containing information for the trade name product. The ID number will be used to link the joint reports in an internal database. The email request should comply with guidelines set at 711.15(b)(3)(i) and provide reference to the CDR web site (https://www.epa.gov/cdr) for guidance on registering with CDX and completing the Secondary Form (Figure 14).

- Indicate whether you would like the reporting tool to send a copy of your email to EPA, thereby providing a record of the request to the secondary submitter.

- If the secondary submitter ultimately decides to provide you with the chemical identity information directly, you should change your submission type and submit a single submission.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The Crosswalk in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

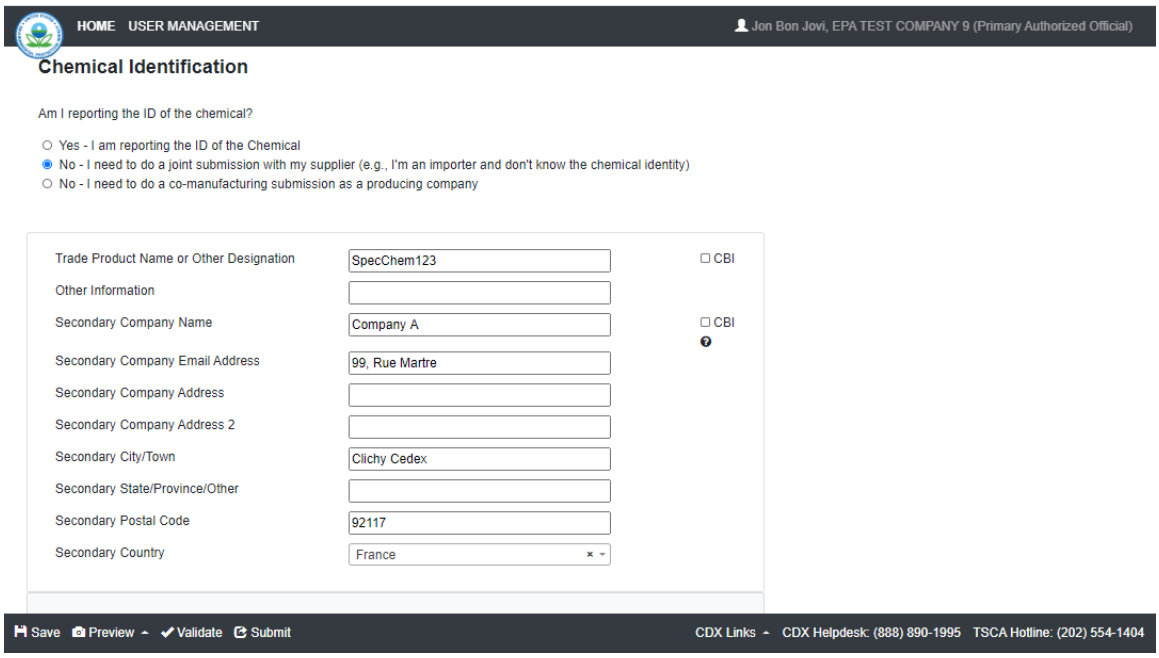


Figure 13. Joint Submission for Primary Submitter

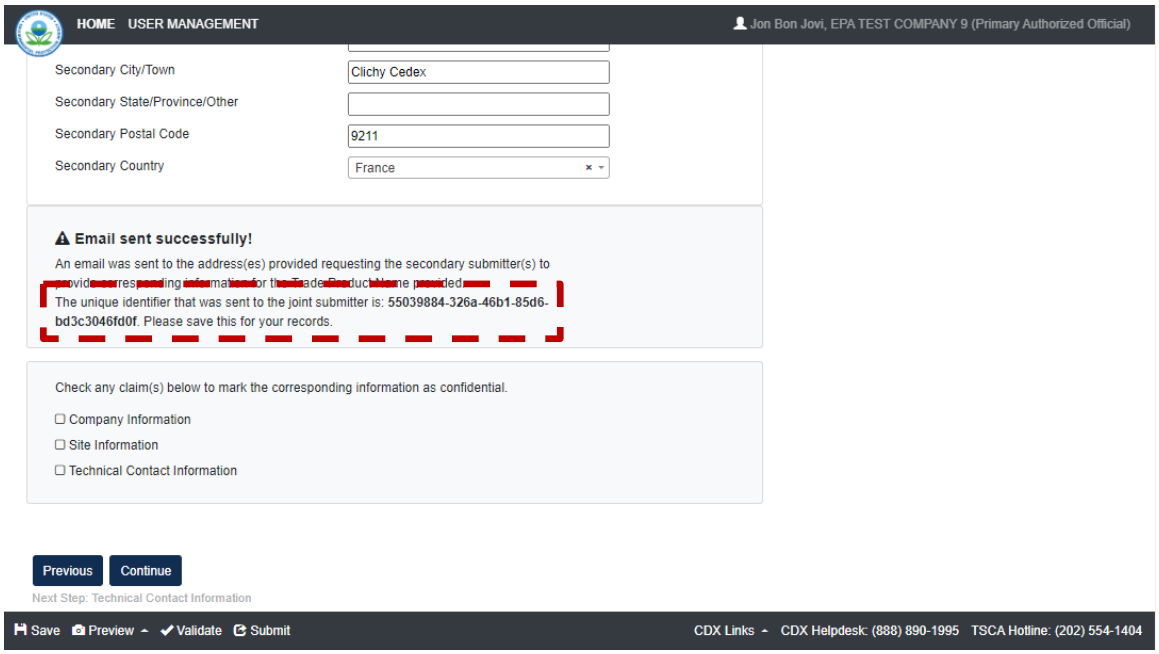


Figure 14. Joint Submission Unique Identifier

EXAMPLE G-2: JOINT SUBMISSION
Secondary Form. Joint Submission Information (Secondary Submitter)

This example illustrates how to properly report:
- Joint submission information when you are the secondary submitter

Scenario
Company A, located in Clichy Cedex, France, manufactures a 95 percent solution of Chemical X, which is sold to Company B under the trade name SpecChem123 and used as a specialty solvent at Company B's facility in Deepwater, NJ. Chemical X is listed on the public portion of the TSCA Inventory, but Company A claims as a trade secret the fact that SpecChem123 consists of Chemical X, and has refused to divulge this information to Company B. Company B has explained that it is reporting the import of SpecChem123 from Company A, and has requested that Company A supply the chemical identity of SpecChem123 directly to EPA, through a secondary submission. Company B provided Company A with the following Unique Identifier for Joint Submissions: 56b531d2-db31-468a-a459-4b4eb8454d78. SpecChem123 contains 95 percent of Chemical X, which has the CASRN of 123-45-6.

The process engineer at Company A that oversees the manufacture of SpecChem123 is Pierre Cousteau. His contact information is as follows:

Pierre Cousteau
Company A
99, Rue Martre
92117 Clichy Cedex
France
Phone: (555) 555-5555
Email: pierre.cousteau@email.com

The address for Company B is:

Company B
1212 Technology Road
Deepwater, NJ 08070

How will you report under CDR?
Company B was required to ask Company A to submit chemical identity information under a secondary voluntary submission for SpecChem123. To provide the secondary submission, Company A would fill out the information in the Secondary Form. There are three parts to the Secondary Form: Part 1 – Secondary Company (i.e., Company A) information; Part 2 – Trade Product (i.e., SpecChem123) Information, including the chemical identities, percent composition, and function of chemical; and Part 3 – Substantiation of Confidential Information Claims (not used in this example).

Secondary Company Information

- The company name and mailing address provided during CDX registration will populate the Secondary Company Information fields buthe county or parish will need to be manually populated. The user will have the ability to edit the information on the screen if needed (Figure 15).

- After entering all of the chemical identification information, Company A will be required to create a Technical Contact for the first trade product (this information may be copied from the user's CDX registration). After saving the user will need to select the new contact as the contact for the chemical. The user will also have the ability to identify the contact as the default technical contact for any other products. If another trade product is created, the user will have the ability to add an additional technical contact and select that information as the contact for the trade product or as the new default technical contact for all subsequent products added. (Figure 15a)

Chemical identification information

- Because Company A is submitting a joint submission as the secondary submitter, Company A should enter the Unique Identifier for Joint Submissions number provided by the primary submitter (Company B) into the e-CDRweb reporting tool, Secondary Form. Once entered, click on "Populate" to populate the table with the trade name product. (Figure 16)

- As a secondary submitter for the joint submission for SpecChem123, Company A should provide information on the chemical identity of the trade name product or mixture.
- SpecChem123 contains a chemical (Chemical X) that is listed on the public portion of the TSCA Inventory.
    - Company A should use SRS to select the appropriate CASRN and CA Index Name to identify SpecChem123. SpecChem123 contains 95 percent Chemical X by composition.
- Company A should verify that all fields are correct on the preview screen and submit the file to EPA via CDX.

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

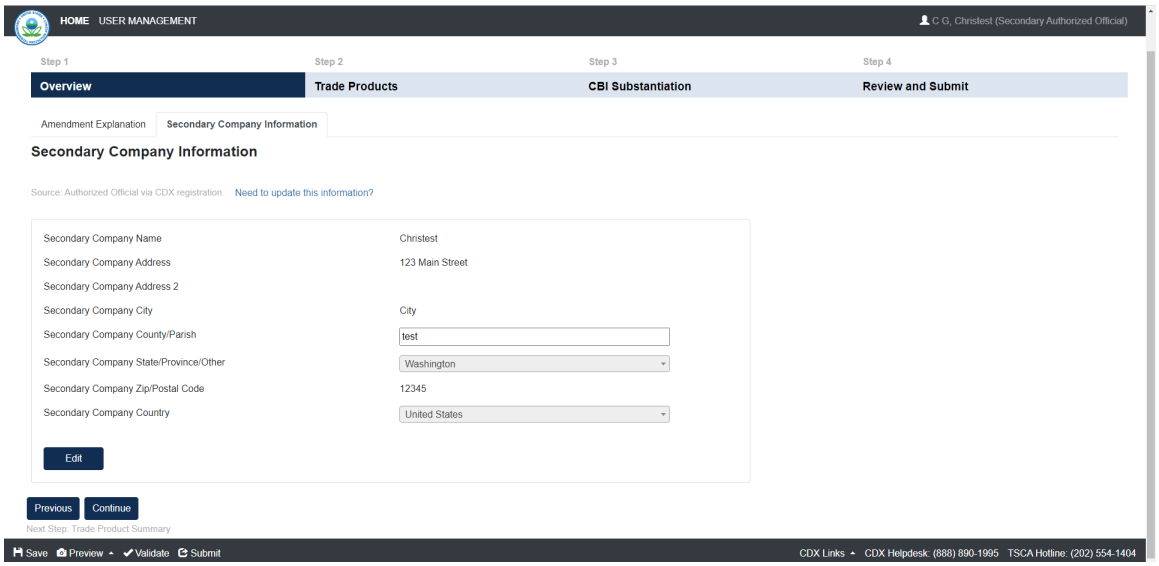


Figure 15. Joint Submission for Secondary Submitter

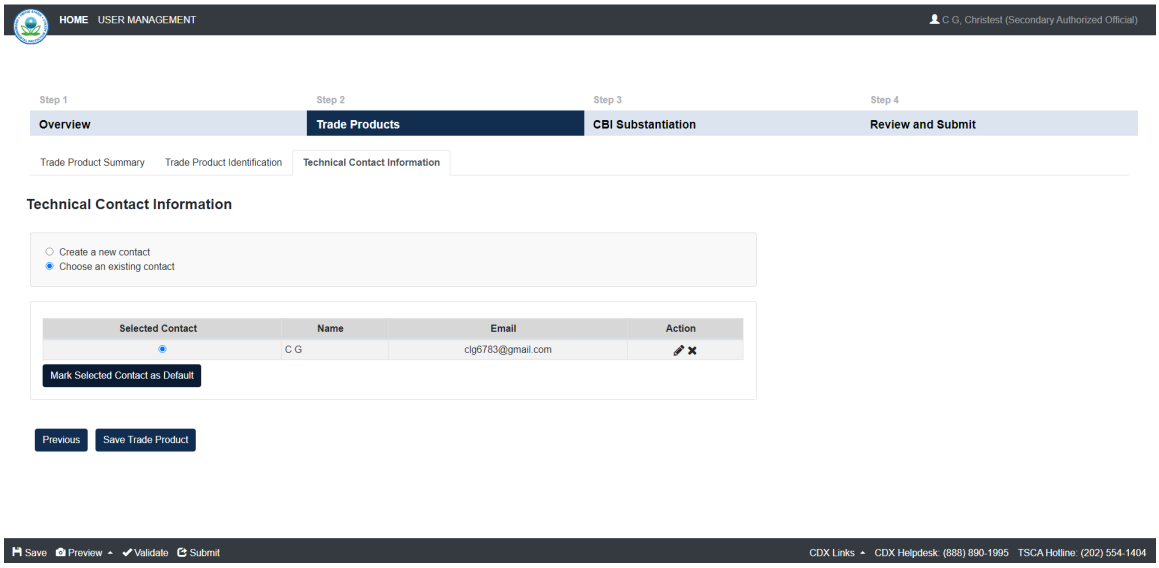


Figure 15a. Technical Contact

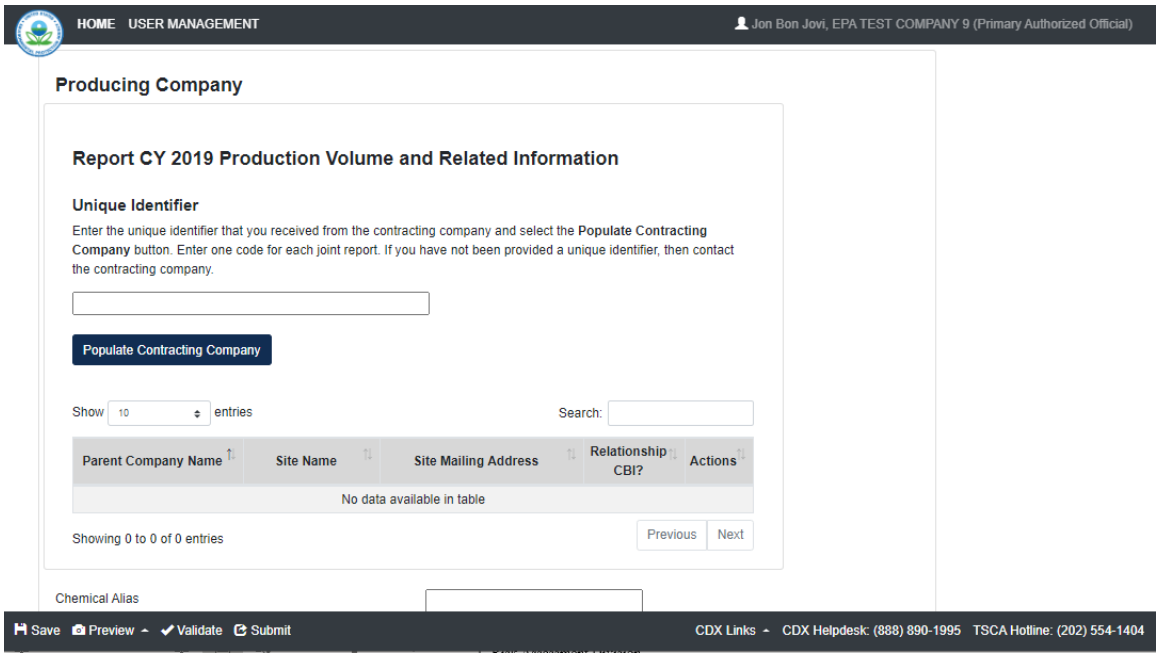


Figure 16. Entering Unique Identifier as Secondary Submitter

GENERAL CASE STUDY

Scenario: BestChem, Inc. manufactures and imports Chemical X for the production of Chemical Y at its Waco, TX, site. Chemical Y is sold to domestic and international paint and coatings manufacturers for the formulation of coatings for industrial and consumer uses. Table 1 provides a summary of BestChem's importation, domestic manufacture, and exportation of Chemicals X and Y since the last principal reporting year for CDR.

Table 1. Summary of Quantities of Chemicals X and Y Imported, Domestically Manufactured, and Exported

Year	Chemical X		Chemical Y	
	Volume Imported (lb)	Volume Domestically Manufactured (lb)	Volume Domestically Manufactured (lb)	Volume Exported (lb)
2016	1,000,000	500,000	3,000,000	500,000
2017	500,000	3,000,000	7,000,000	1,000,000
2018	0	5,000,000	10,000,000	3,000,000
2019	1,000,000	4,000,000	10,000,000	6,000,000

Chemical X is imported in solid powder form at 99 percent concentration by weight; however, before it is used as a reactant, it is dissolved in a solvent to produce a liquid mixture containing 50 percent of Chemical X by weight. When domestically manufactured, Chemical X is produced at this same concentration (50 percent) in liquid form. The entire imported and domestically manufactured volume is used in the production of Chemical Y at BestChem's Waco site.

The Waco site operates three shifts and BestChem estimates the following number of workers may be reasonably likely to be exposed during the manufacturing activities for Chemical X:

- One worker/shift is exposed as the imported chemical is unloaded;
- Four workers/shift are exposed during manufacturing processes; and
- 10 maintenance workers are exposed during various cleaning processes.

Chemical Y is manufactured as a liquid mixture containing 35 percent of Chemical Y by weight. During 2019, 6 million lb of the manufactured Chemical Y were shipped off site in the form of the liquid mixture. The remaining 4 million lb were dried to make a powder containing 86 percent of Chemical Y by weight.

BestChem estimates the following number of workers may be reasonably likely to be exposed during the manufacturing activities for Chemical Y:

- Six workers/shift are exposed to both Chemicals X and Y during the manufacture of Chemical Y;

- Four workers/shift are exposed during the drying operations to produce the powder form of Chemical Y;
- Four workers/shift are exposed to Chemical Y during packaging; and
- 10 maintenance workers are exposed to Chemical Y during cleaning processes.

Chemical Y is used as a dispersant in water-based paints. BestChem ships Chemical Y to the following destinations:

- One million lb is shipped to eight domestic sites that formulate furniture coatings;
- 3 million lb is shipped to 35 sites which formulate architectural coatings for commercial and consumer use; and
- 6 million lb is exported.

Although the above sites are not under BestChem's control, BestChem was able to estimate that up to 12 workers may be exposed to Chemical Y at each coating formulation site. The number of customer sites that buy the furniture paints and coatings and the number of workers that may be exposed at the furniture manufacturing sites are not known to or reasonably ascertainable by BestChem. Due to the widespread use of architectural paints and coatings, BestChem estimates over 10,000 commercial workers may be exposed to Chemical Y during this use. The concentration of Chemical Y in the coating products is less than two percent by weight.

How will you Report under CDR?
Both Chemicals X and Y are manufactured for commercial purposes, are listed on the TSCA Inventory, and are not the subject of any reporting exemptions. The production volume for at least one of the calendar years since the last principle reporting year is greater than 25,000 lb for each of the chemicals. Therefore, BestChem must file Form U for both Chemical X and Chemical Y.

The sections below illustrate how to complete Section 2.C and Section 2.D for both chemical substances.

Chemical X - Section 2.C

Production Volume for Calendar Years 2016, 2017, and 2018

- When reporting the production volumes for calendar years 2016, 2017, and 2018, add the domestically manufactured and imported volumes for each calendar year. All other data elements in Section 2.B should be based on 2019 production volume. (Figure 17)

2019 Production Volume Information

- BestChem both domestically manufactured and imported Chemical X in 2019; therefore, both "Manufacture" and "Import" are selected. The domestically manufactured and imported volumes are reported separately. (Figure 18).

- Because Chemical X is used at the site of import, it was physically at the site. (Figure 18)

- BestChem uses the entire volume of Chemical X (both domestically manufactured and imported) at its Waco site to manufacture Chemical Y. Therefore, 5 million lb is the total volume used on site. (Figure 18).

- No volume of Chemical X is exported. (Figure 18)

Number of Workers

- The number of workers potentially exposed during manufacturing is computed as follows:

  (1 worker/shift during unloading + 4 workers/shift during manufacturing) x 3 shifts
  + 10 maintenance workers
  = 25 workers total

  This corresponds to range code W3 (at least 25 workers but fewer than 50). (Block 2.B.10)

  Note that the workers exposed to Chemical X during the manufacture of Chemical Y would be reported as workers exposed during processing and use of Chemical X in Section 2.D.

Maximum Concentration

- Chemical X neither leaves the site nor is it a site-limited intermediate since it is imported. Therefore, the highest concentration at which Chemical X is processed or used on-site should be reported. Code M5 (greater than 90% by weight) is reported corresponding to the 99% concentration at which Chemical X is imported. (Figure 18).

Is chemical being recycled?

- Chemical X was consumed to manufacture Chemical Y and was not recycled within the process. (Figure 18)

Physical Forms

- All forms in which Chemical X is manufactured or imported should be reported. Rounded to the nearest ten percent, 20 percent is imported as a dry solid and 80 percent is manufactured as a liquid. (Figure 19)

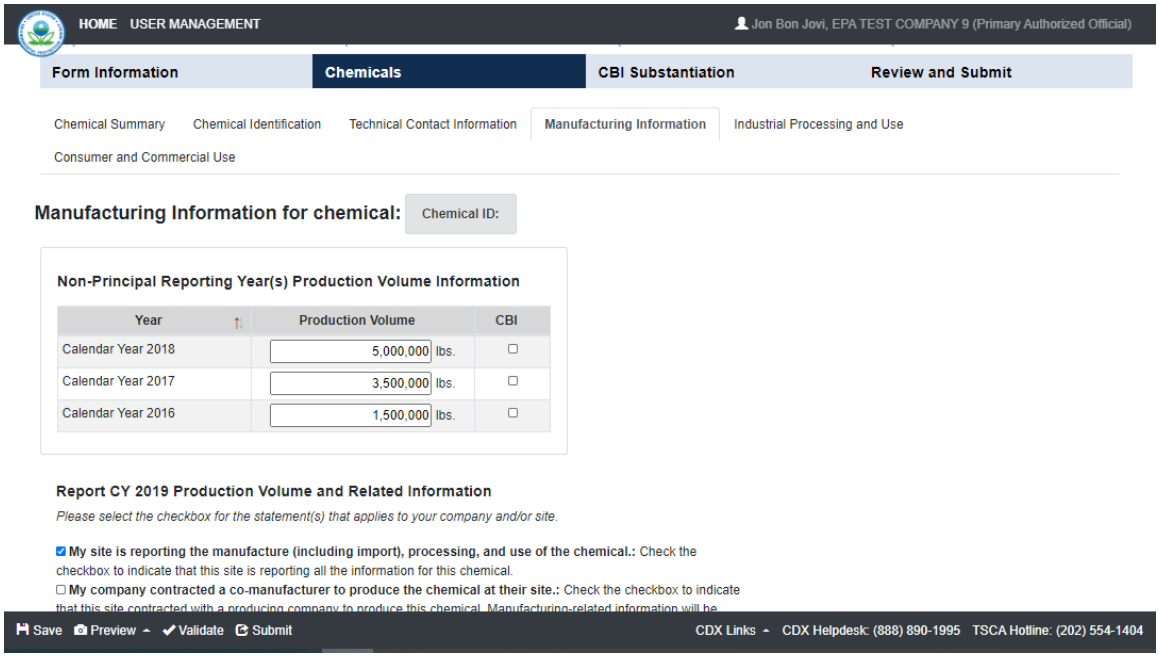


Figure 17. BestChem Chemical X Past Production Volume

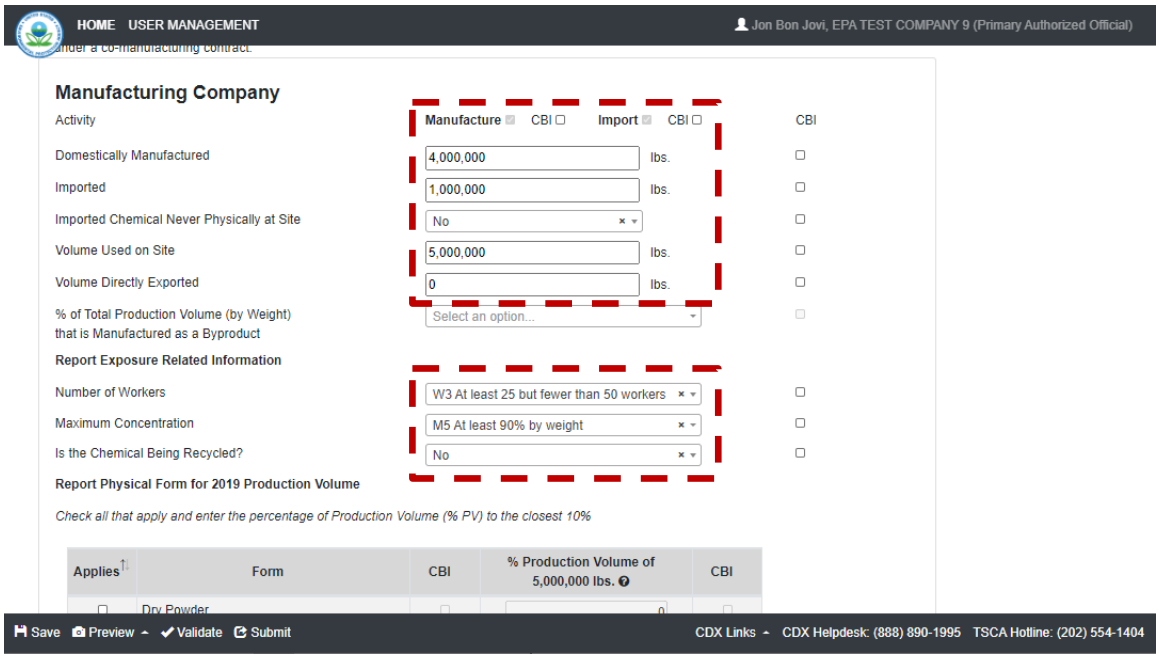


Figure 18. BestChem Chemical X Manufacturing Information

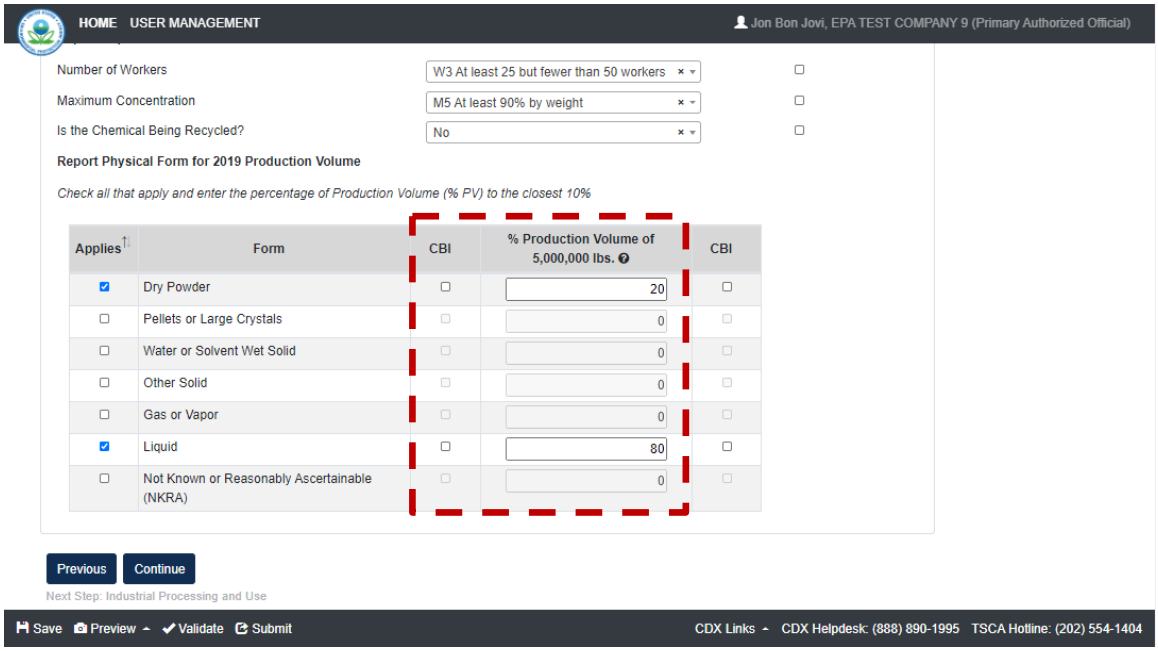


Figure 19. BestChem Chemical X Physical Form

Chemical X – Section 2.D

Industrial Processing and Use

- The entire volume of Chemical X is used in the manufacture of Chemical Y; therefore, there is only one processing and use scenario.
- Chemical X is only used as a reactant for Chemical Y. The processing and use code is PC, Processing as a reactant.
- BestChem reviewed the Industrial Sector codes and determined the processing of Chemical X to manufacture Chemical Y is under IS21 – All other basic organic chemical manufacturing. Although Chemical Y will eventually be used in Paints and Coatings, the use of Chemical X to manufacture Chemical Y should be reported here.
- Chemical X is an Intermediate (F037; Previously U015) in the production of Chemical Y.
- All of Chemical X, including the amount imported, is used as an intermediate in the manufacture of Chemical Y; the percent of the production volume reported as used for this purpose is 100 percent.
- Chemical X is used only at BestChem's Waco Site. S1 (fewer than 10 sites) is reported.
- BestChem would report the six workers/shift exposed to Chemical X during the manufacture of Chemical Y in this section:

  Six workers/shift x 3 shifts = 18 workers = W2 (at least 10 workers but fewer than 25) (Figure 20)

Consumer and Commercial Use

- Chemical X has no consumer or commercial use sothe N/A box should bemarked (Figure 21).

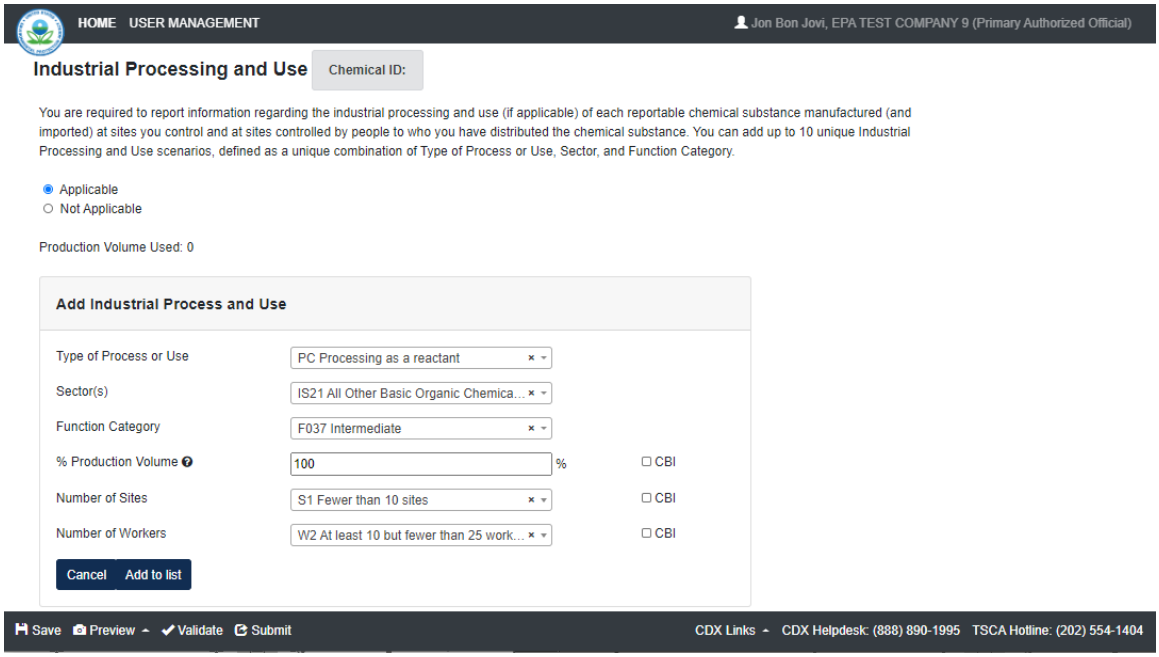


Figure 20. BestChem Chemical X Industrial Processing and Use Data Entry

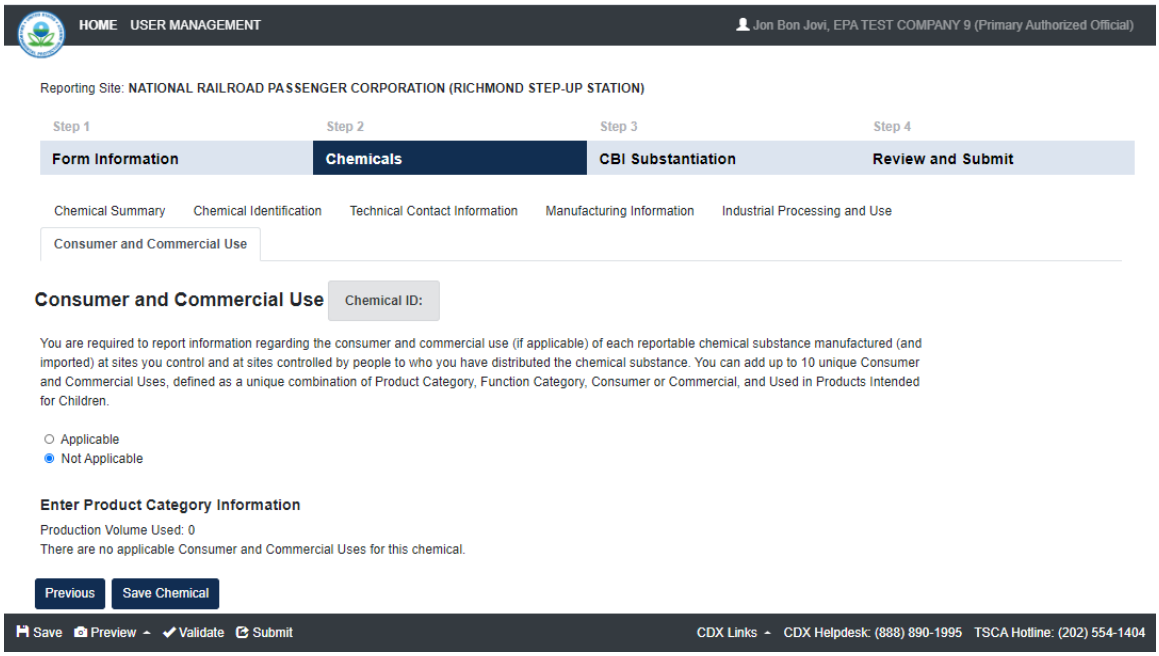


Figure 21. BestChem Chemical X Consumer and Commercial Use

Chemical Y – Section 2.C

Production Volume for Calendar Years 2016, 2017, and 2018

The volume of Chemical Y manufactured, including imported, should also be reported for each calendar year since the last principal reporting year. All other data elements in Section 2.B should be based on 2019 production volume. (Figure 22).

2019 Production Volume Information

- BestChem domestically manufactured Chemical Y in 2019 and did not import this chemical in 2019 (Figure 23).
- Since Chemical Y was not imported, the "Chemical never physically at site" option does not apply to this chemical. (Figure 23)
- After manufacture, Chemical Y is shipped to customer sites andno volume was used on-site. (Figure 23)
- The only other volume reported is the amount of Chemical Y exported in 2019. (Figure 23).

Number of Workers

- The number of workers reasonably likely to be exposed during manufacturing is computed as follows:

  (Six workers/shift during manufacturing + four workers/shift during drying operations + four workers/shift during packaging) x three shifts
  + 10 maintenance workers
  = 52 workers total

  This calculation corresponds to range code W4 (at least 50 workers but fewer than 100). (Figure 23).

Maximum Concentration

- Although Chemical Y is manufactured at 35 percent concentration and the majority of Chemical Y is shipped off site at 35 percent concentration, a portion of the chemical is shipped off site at 86 percent concentration. Therefore, code M4 (60-90 percent concentration by weight) is reported. (Figure 23).

Is chemical being recycled?

- Chemical Y is sold to downstream customers and not recycled within the process. (Figure 23)

Physical Forms

- Although Chemical Y is manufactured as a liquid, the physical form of the chemical as it leaves the site is reported. BestChem reports 40 percent dry powder (4 million lb powder / 10 million lb total = 40 percent rounded to the nearest 10 percent) and 60 percent liquid (6 million lb liquid / 10,000,000 lb total = 60 percent rounded to nearest 10 percent). (Figure 24).

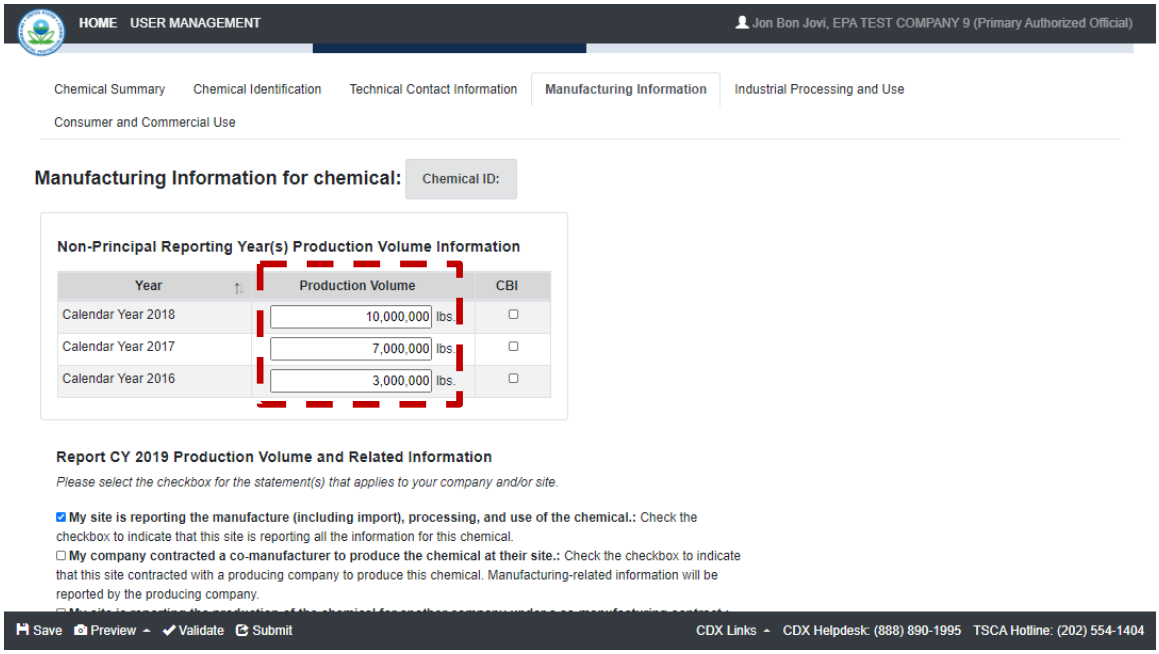


Figure 22. Past Production Volume

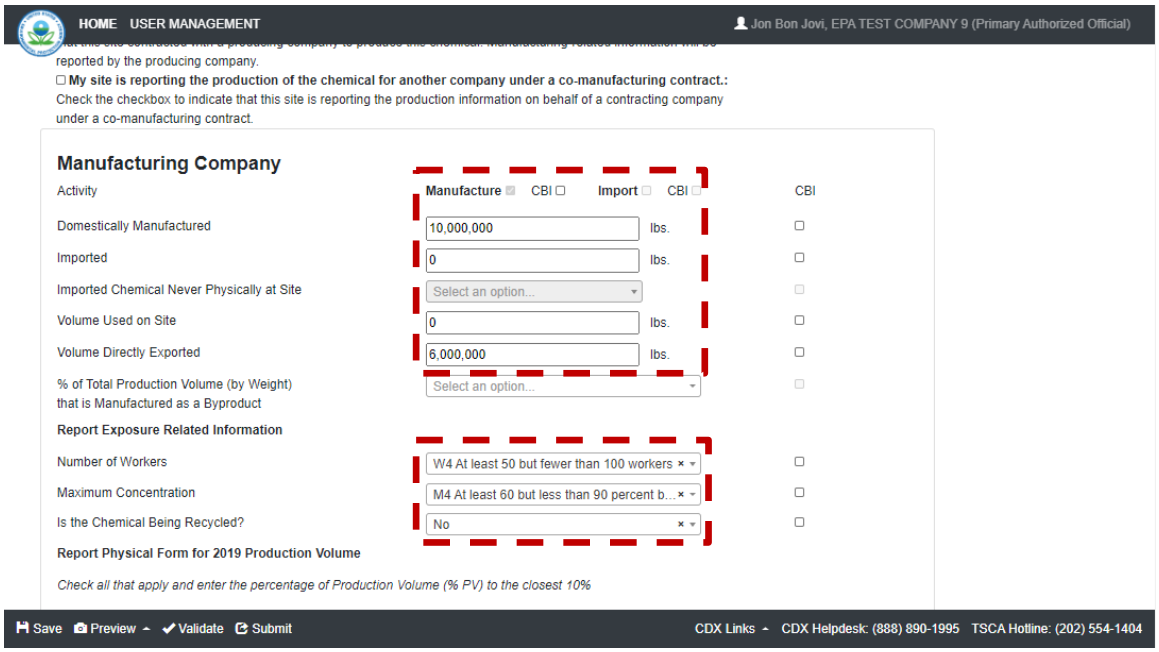


Figure 23. BestChem Chemical Y Manufacturing Information

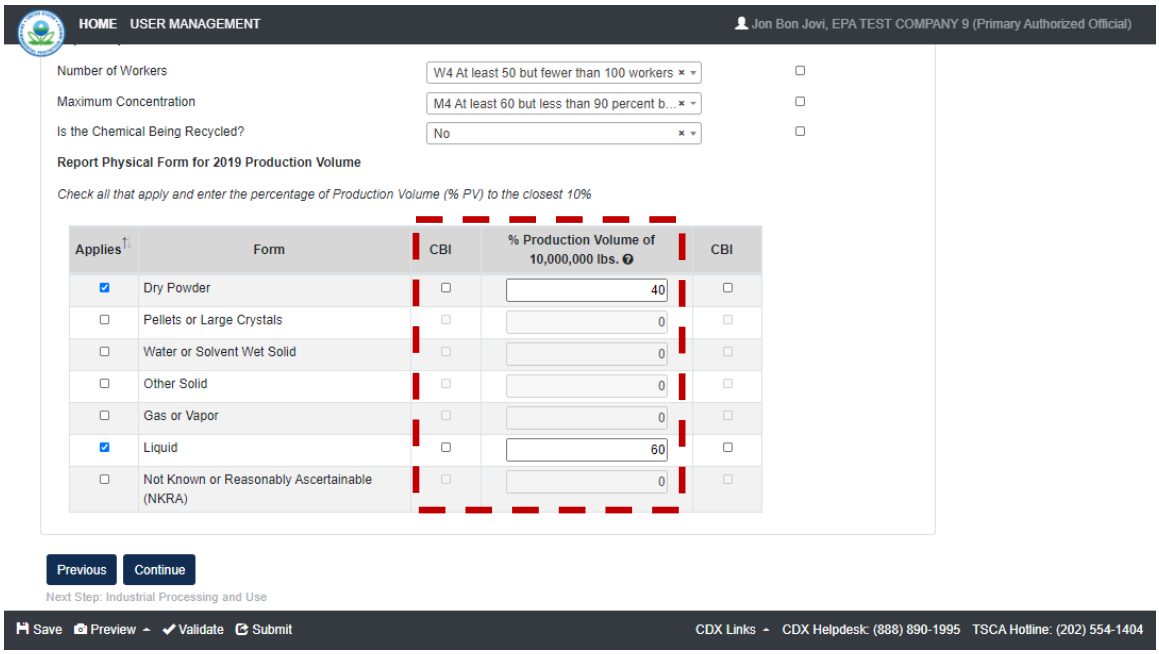


Figure 24. BestChem Chemical Y Physical Form

Chemical Y – Section 2.D

Industrial Processing and Use (Figure 25)

- Although Chemical Y is sold to two types of coating manufacturers, these both fall under the same combination of Process or Use type, Industrial Sector, and Function Category and can be combined onto one line to represent a single use scenario:
  - PF – Processing–incorporation into formulation, mixture, or reaction product;
  - IS27 – Paint and coating manufacturing; and
  - F081 (Previously U034) – Dispersing Agent (Previously Paint additives and coating additives not described by other codes).
- For the paints and coatings use scenario, 4 million lb are formulated domestically into paints / 10 million lb total = 40 percent rounded to the nearest 10 percent. The total manufactured volume, including the imported volume, if any, should be used to calculate the percentage for each use.
- BestChem estimated that there were eight sites that formulate furniture coatings and 35 architectural paint formulation sites for a total of 43 sites, which corresponds to S3 (at least 25 but fewer than 100 sites).
- BestChem also estimated there were 12 workers at each of the 43 sites for a total of 516 workers, which corresponds to W6 (at least 500 but fewer than 1,000 workers).
- Under CDR, BestChem is responsible not only for reporting manufacturing and formulation activities for Chemical Y, but also for the uses of Chemical Y. Therefore, the use of Chemical Y in furniture manufacturing would represent a second processing and use scenario as follows:
  - U – Non-incorporative activities;
  - IS44 – Furniture and related products manufacturing; and
  - F081 (Previously U034) – Dispersing Agent (Previously Paint additives and coating additives not described by other codes).
- BestChem assumes that one million lb out of 10 million lb = 10 percent rounded to the nearest ten percent, or ten percent, of Chemical Y is used to manufacture furniture coatings that will eventually be used in the manufacture of furniture.
- For the furniture manufacturing use scenario, BestChem determined that no other information is known or reasonably ascertainable.
- The volume exported is not reflected in the Industrial Processing and Use section (Section 2.D.1).

Consumer and Commercial Use (Figure 26)

- The function of the chemical for Chemical Y would be Dispersing Agent (F081; Previously U034).

- The only consumer and commercial use for Chemical Y is in Water-based paints (Product Category CC216; Previously C202). The paints have both consumer and commercial paint applications.
- The paints are not intended for or marketed to children.
- BestChem shipped 3 million lb of Chemical Y for use in domestic architectural coatings / 10 million lb total = 30 percent rounded to nearest 10 percent. The maximum concentration of Chemical Y is 2 percent, which corresponds to code M2 (at least 1 percent but less than 30 percent by weight). Due to the widespread use of architectural coatings, BestChem estimates over 10,000 commercial workers may be exposed to Chemical Y (W8).

Note: This example presents guidance on select CDR reporting requirements and does not address all of the information that must be reported under CDR. The "Crosswalk: CDR Reporting Topics Covered in the Case Studies" in the Introduction on page ii provides an overview of the CDR data elements that are discussed in each Case Study.

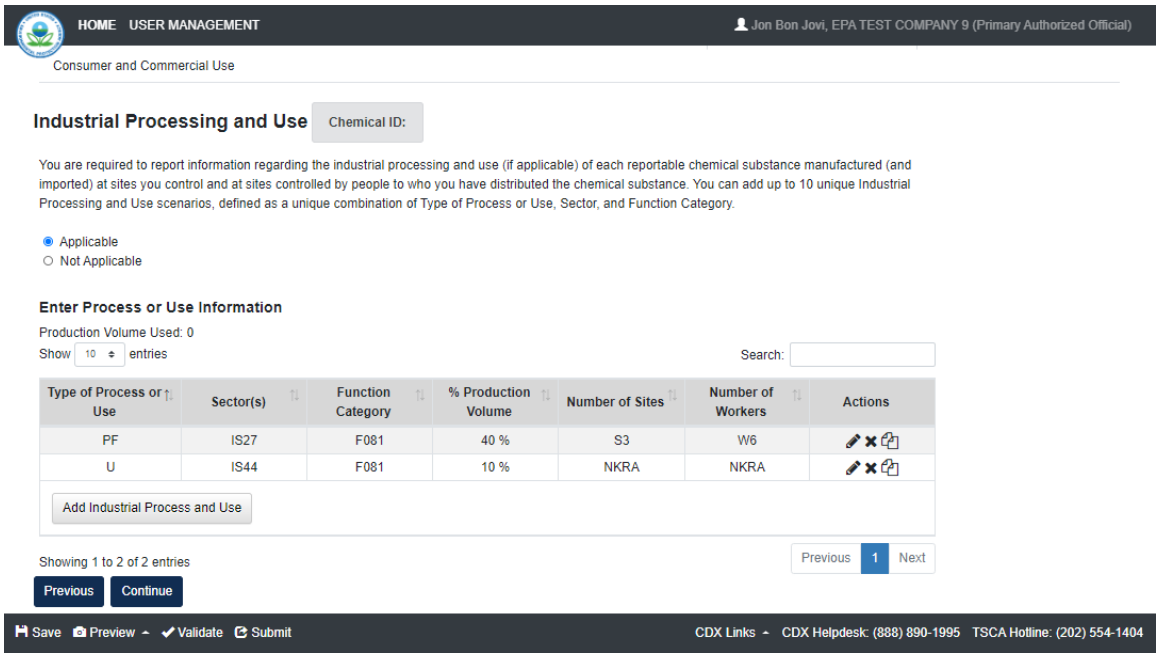


Figure 25. BestChem Chemical Y Industrial Processing and Use

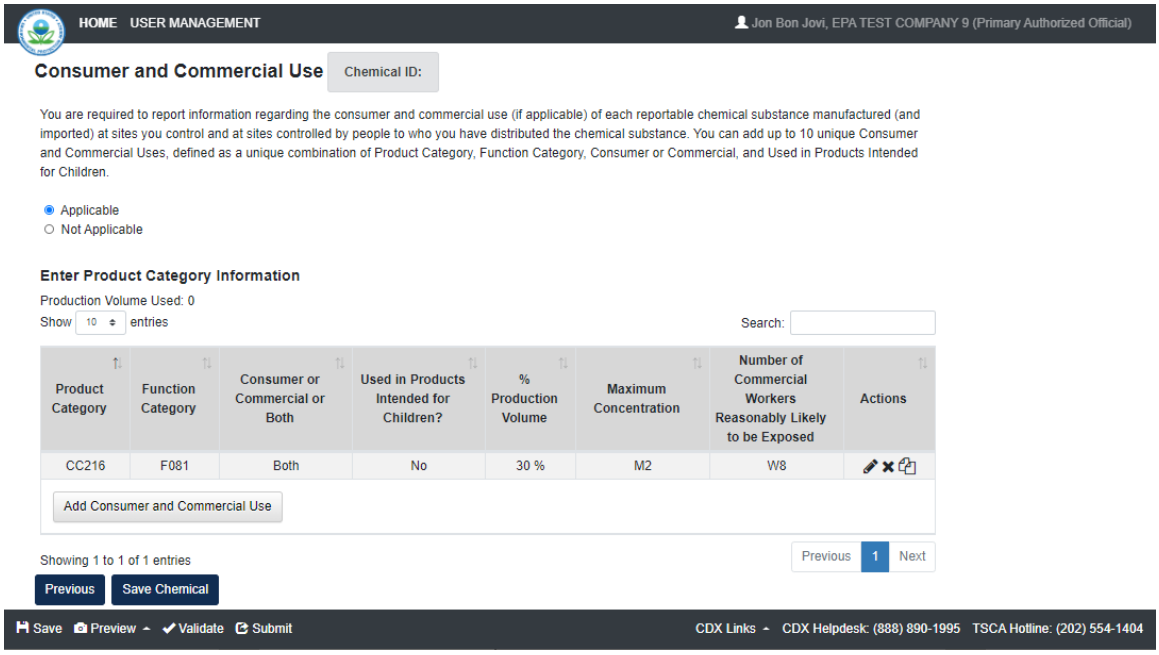


Figure 26. BestChem Chemical Y Consumer and Commercial Use