Subpart OO - Only for Facilities that Produce, Transform, and/or

Worksheet Instructions:	
Please complete Part 1 below. If applicable, please identify the processes that produce will be used as the basis for the process identification picklists presented on the Product	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-su
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display/h
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display/h
Workbook Navigation:	
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

Part 1 - Facility Information

Instructions: Complete the following facility information.

Facility Name:	
GHGRP ID:	
Reporting Period:	

Part 2 - Production/Transformation/Destruction Process Informa

**Instructions: Identify and describe each production/transformation/destruction pr
again on the Products and Onsite Transformation tabs when you enter product in
"Transformation or Destruction Process" in Column C.**

	Unique Identifier [98.416(a)]	Is the unique identifier associated with an F-GHG, F-HTF, or N_2O production process, an F-GHG, F-HTF, or N_2O transformation/ destruction process or both?
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Destroy F-GHGs, F-HTFs, and/or N_2O

Updated: 11/23/2020

or transform F-GHGs, F-HTFs, and/or N_2O at the facility in Part 2 of this pag
:s and Onsite Transformation pages. Please do not skip rows.

ppliers-industrial-greenhouse-gases
elp/Reporting+Form+Instructions
elp/Optional+Calculation+Spreadsheet+Instructions

Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

ıtion

ocess at the facility. Each identifier entered in Column B must be uniqu
formation. Note: If your facility only operates processes that destroys

Description (optional) [98.416(a)]	Does the process produce the F-GHGs, F-HTFs, or N_2O? [98.416(a)(1)]

ge. Process Identifiers entered in Column B

ue. These identifiers will be referenced
F-GHGs and/or F-HTFs please select

Does the process transform or destroy the F-GHG, F-HTFs, or N_2O produced at an off-site location? [98.416(a)(2)]

Subpart OO - Only for Facilities that Produce F-GHGs, F-HTF

Worksheet Instructions:	
Please identify the F-GHGs, F-HTFs, and/or N_2O produced by processes at the faci	
common F-GHGs is presented in Col C. If the product in question is not present in	
found on the Listed F-GHGs page.	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display
Workbook Navigation:	
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

Part 2a - Production Process Information

Instructions: Identify each F-GHG, F-HTF, or N_2O produced by the process. Re

	Unique Production Process Identifier [98.416(a)]	Gas Produ If not listed, select "Search Extended List" F-GHG or F-HTF not listed" and enter the i produces two or more F-GHGs simultaneo by weight, list the individual F-GHG consti
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s, and/or N_2O

11/23/2020

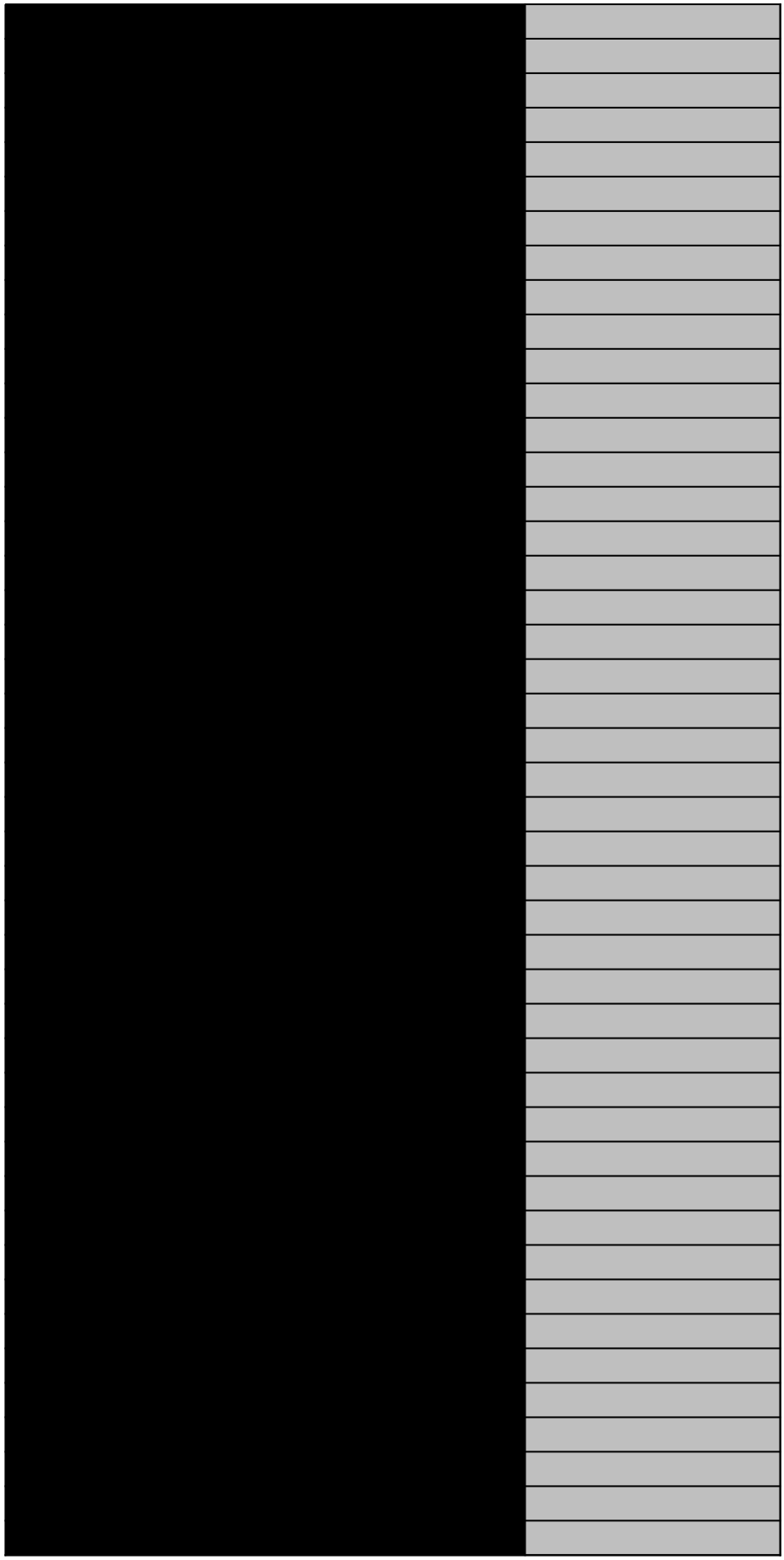
lity. For each product, identify process in Column B and the name of
Column C then select “Search Extended List” and find the product in C

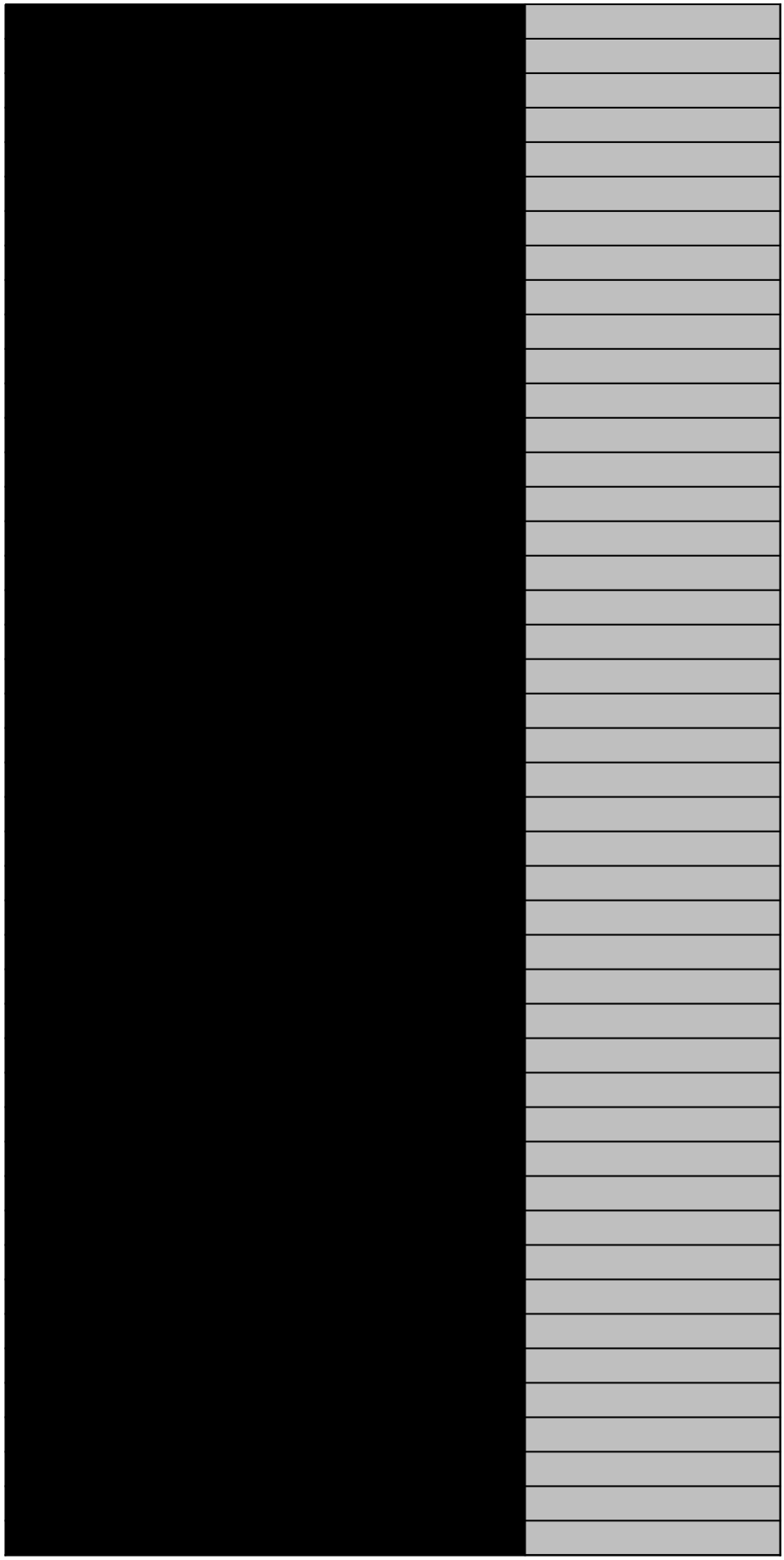
suppliers-industrial-greenhouse-gases
/help/Reporting+Form+Instructions
/help/Optional+Calculation+Spreadsheet+Instructions

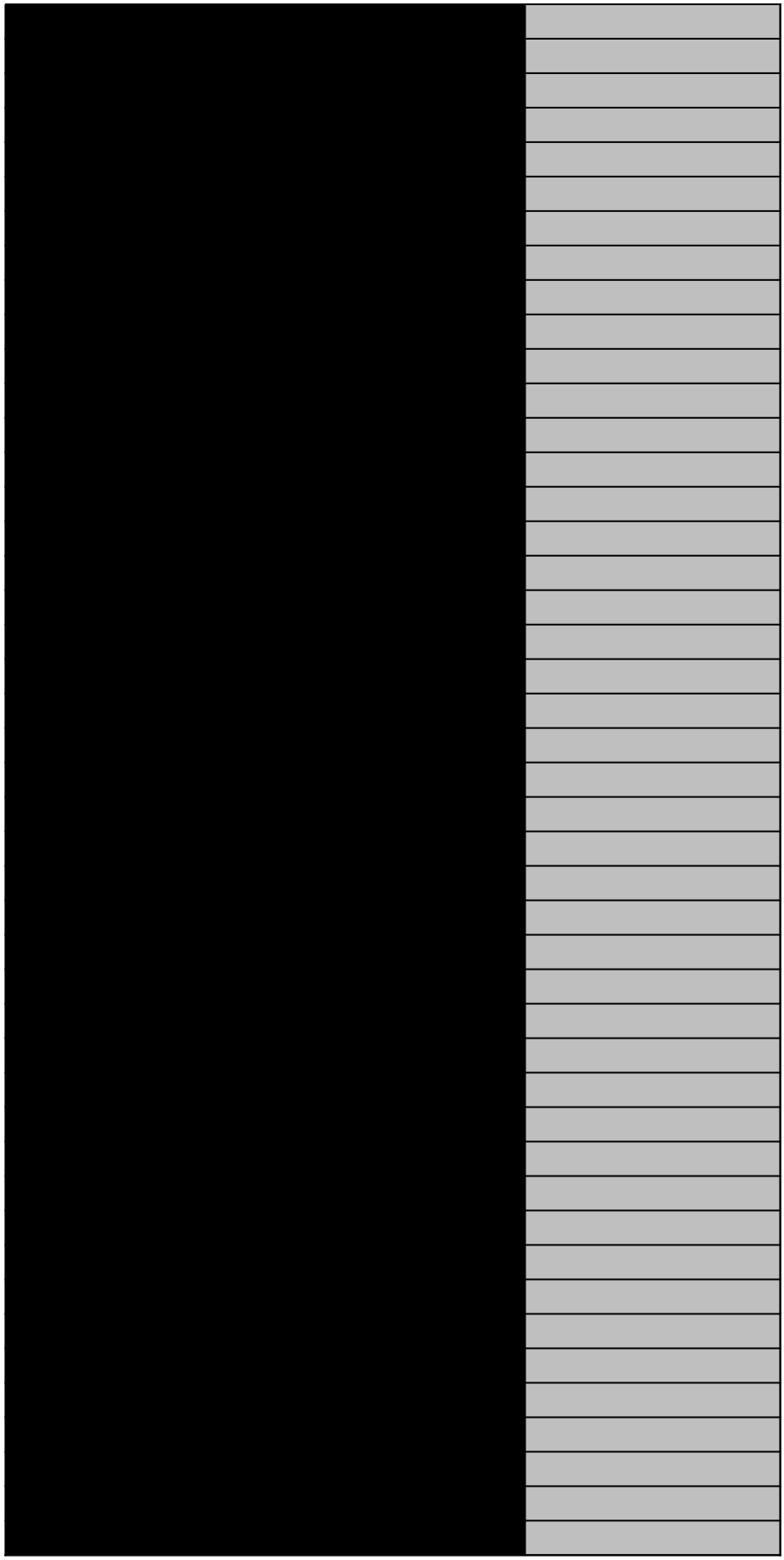
Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

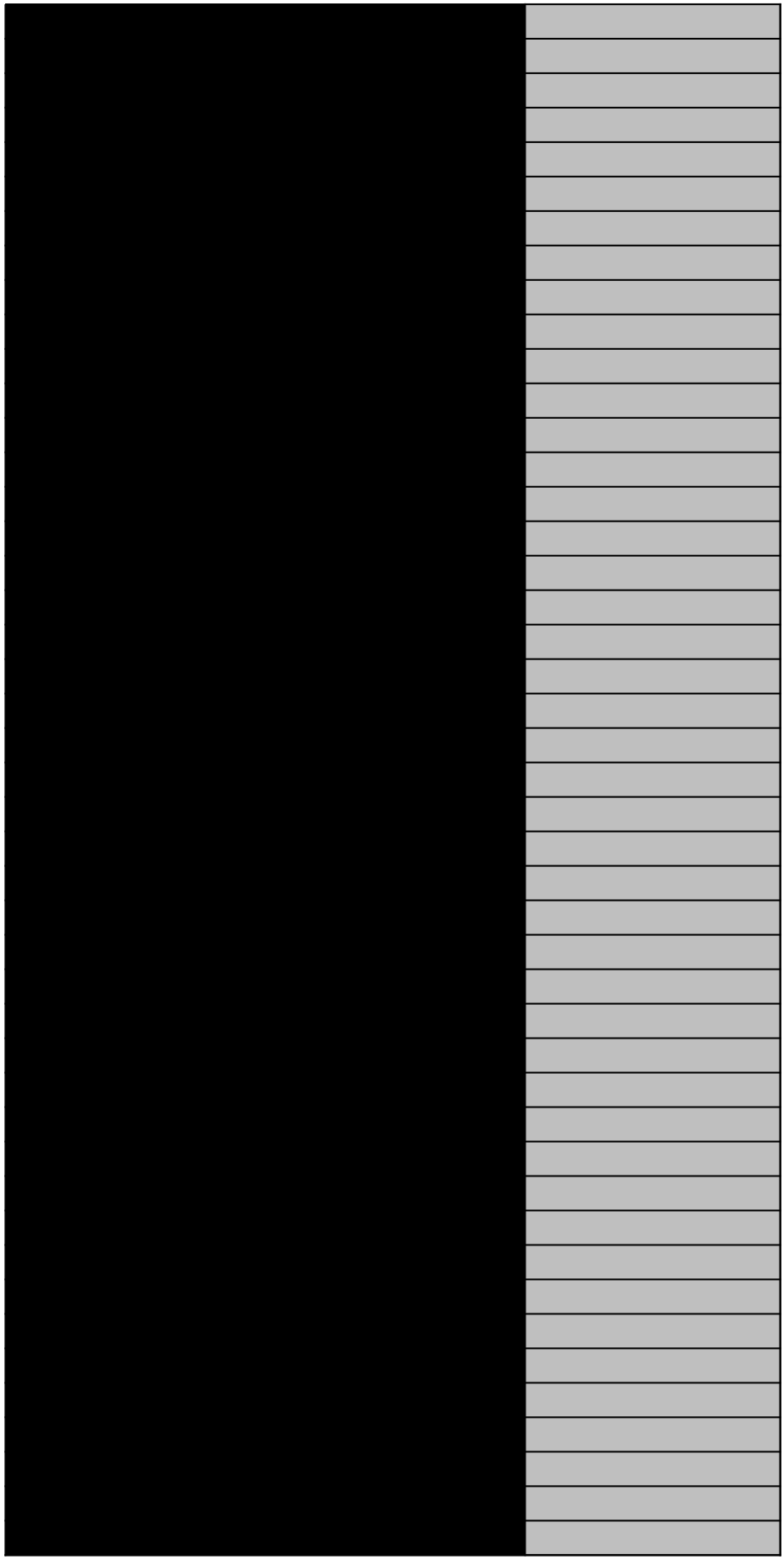
eport the production of blend components, but not the productio

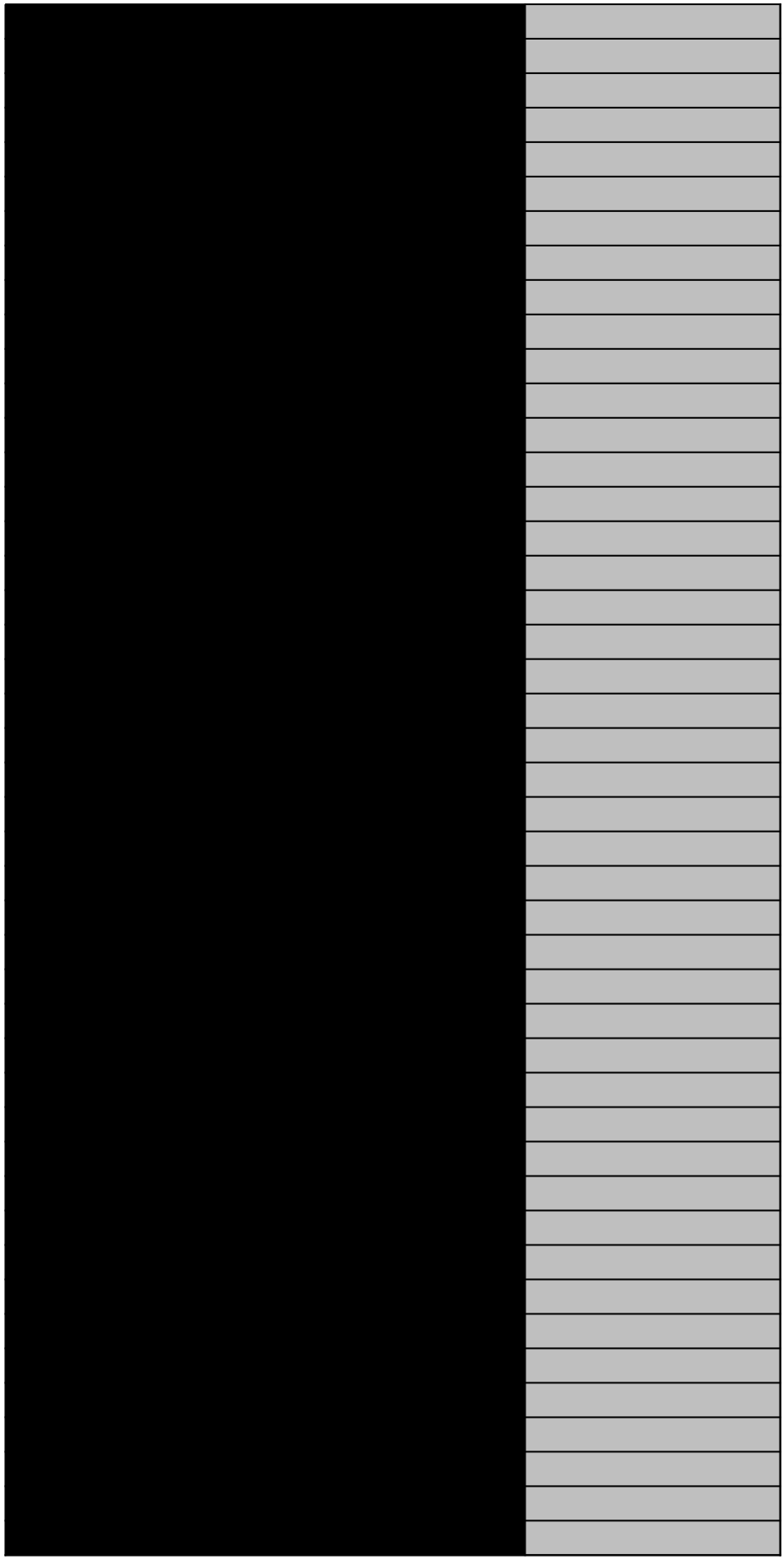
ses	CASRN:
uced F-GHG, F-HTF, or N_2O **' to activate column 'D' for a comprehensive list or select "Other** **nformation required in columns 'F', 'G', 'H', and 'I'. If the process** **usly, and their concentrations in the product exceed 0.1 percent** **tuents of the product in order of declining concentrations in the** **product** **[98.416(a)(1)]**	
[redacted]	

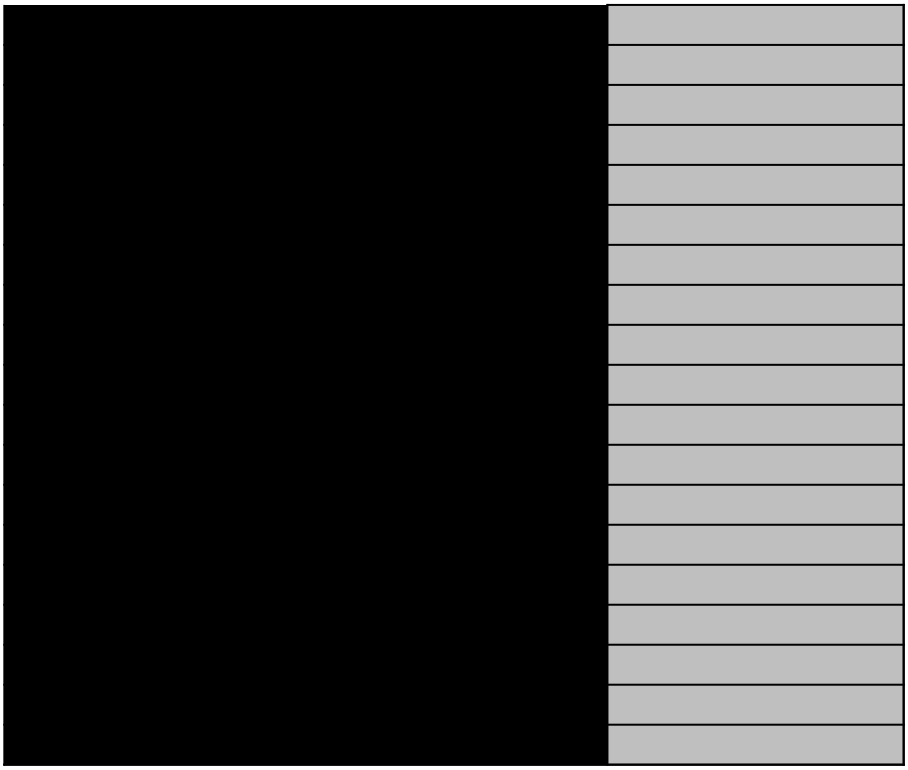








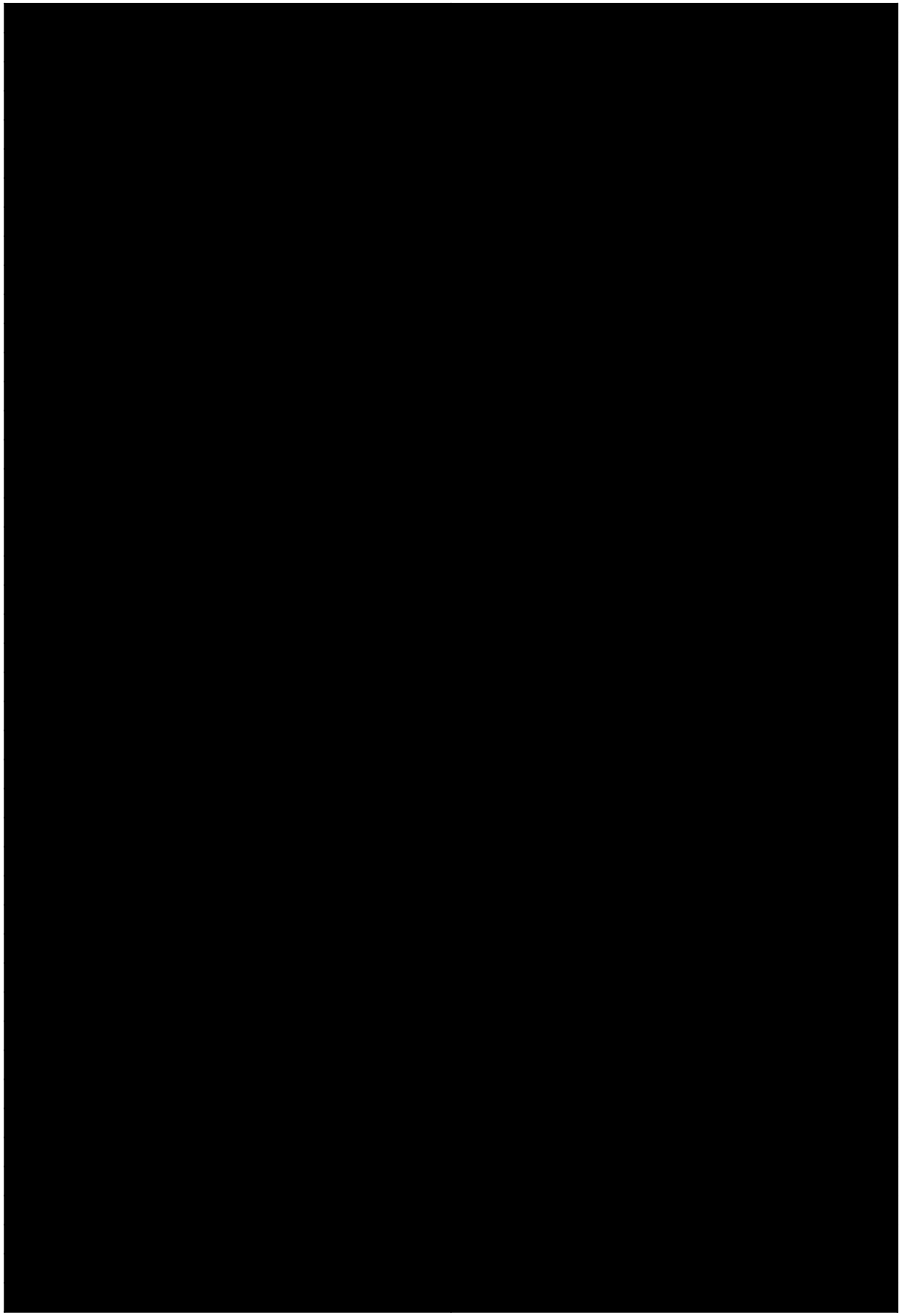


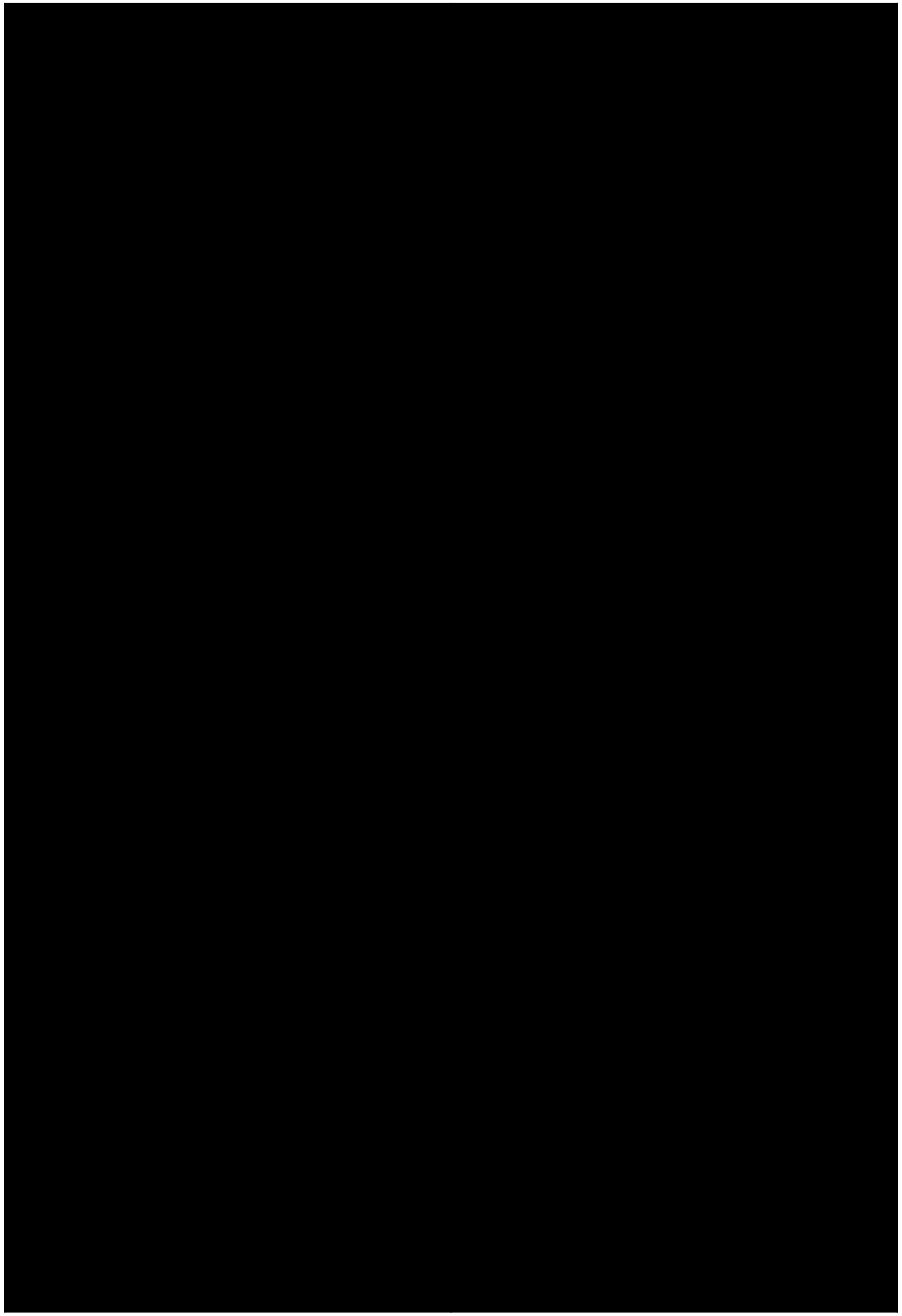


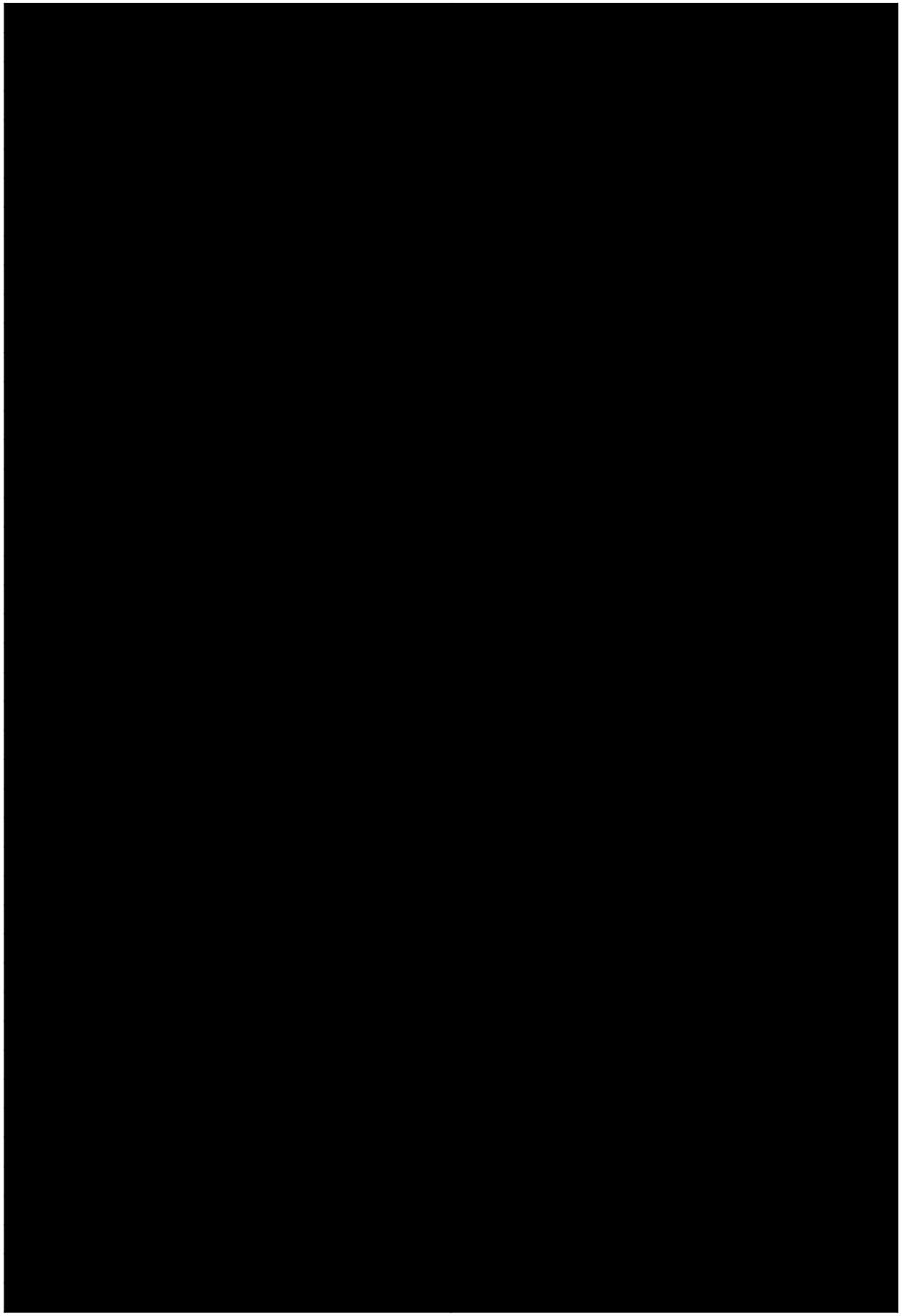
the product in Columns C and D. A list of Column D. A complete list of products can be

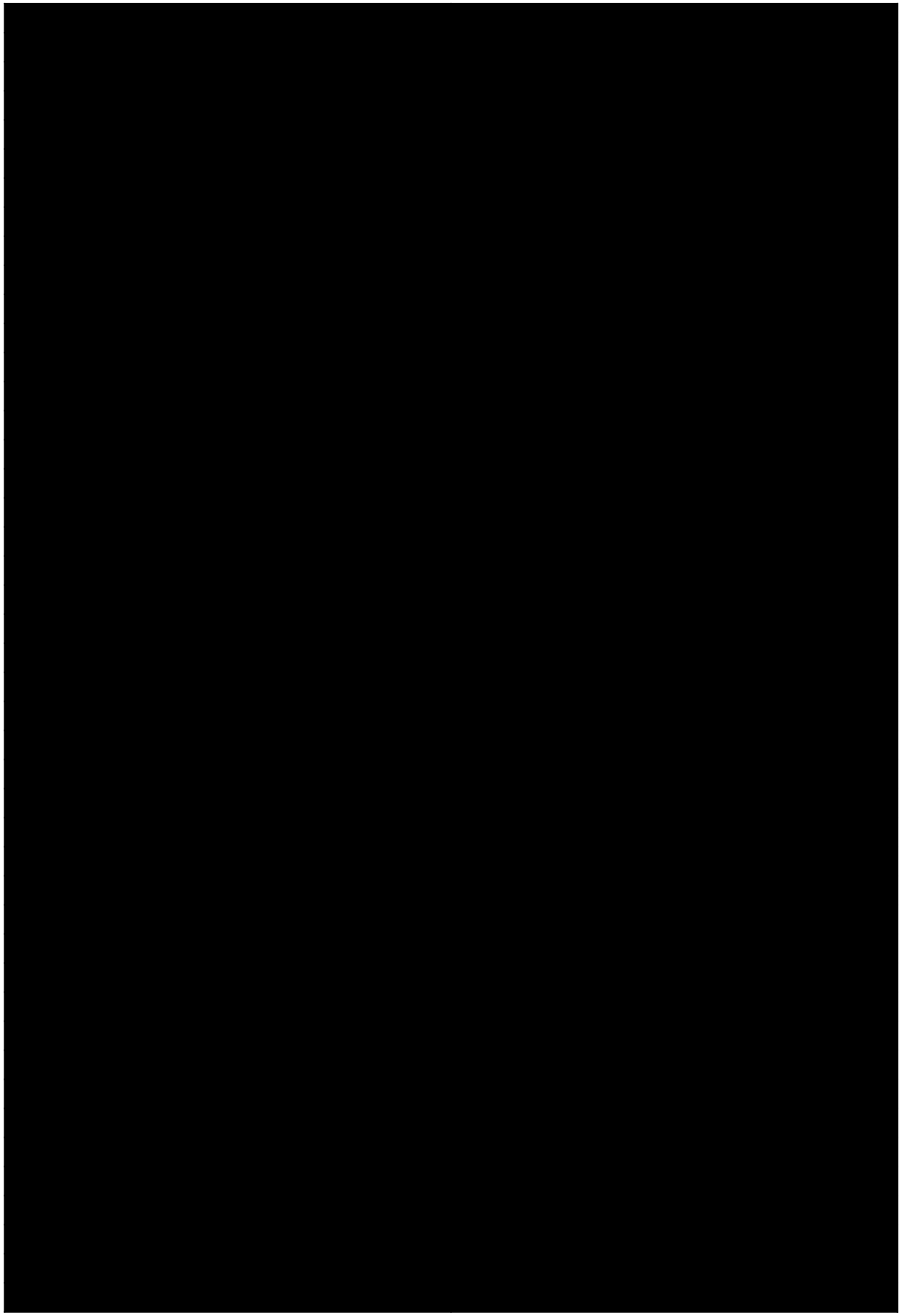
n of blends (unless the “blend” consists of F-GHG components that are simultaneously p

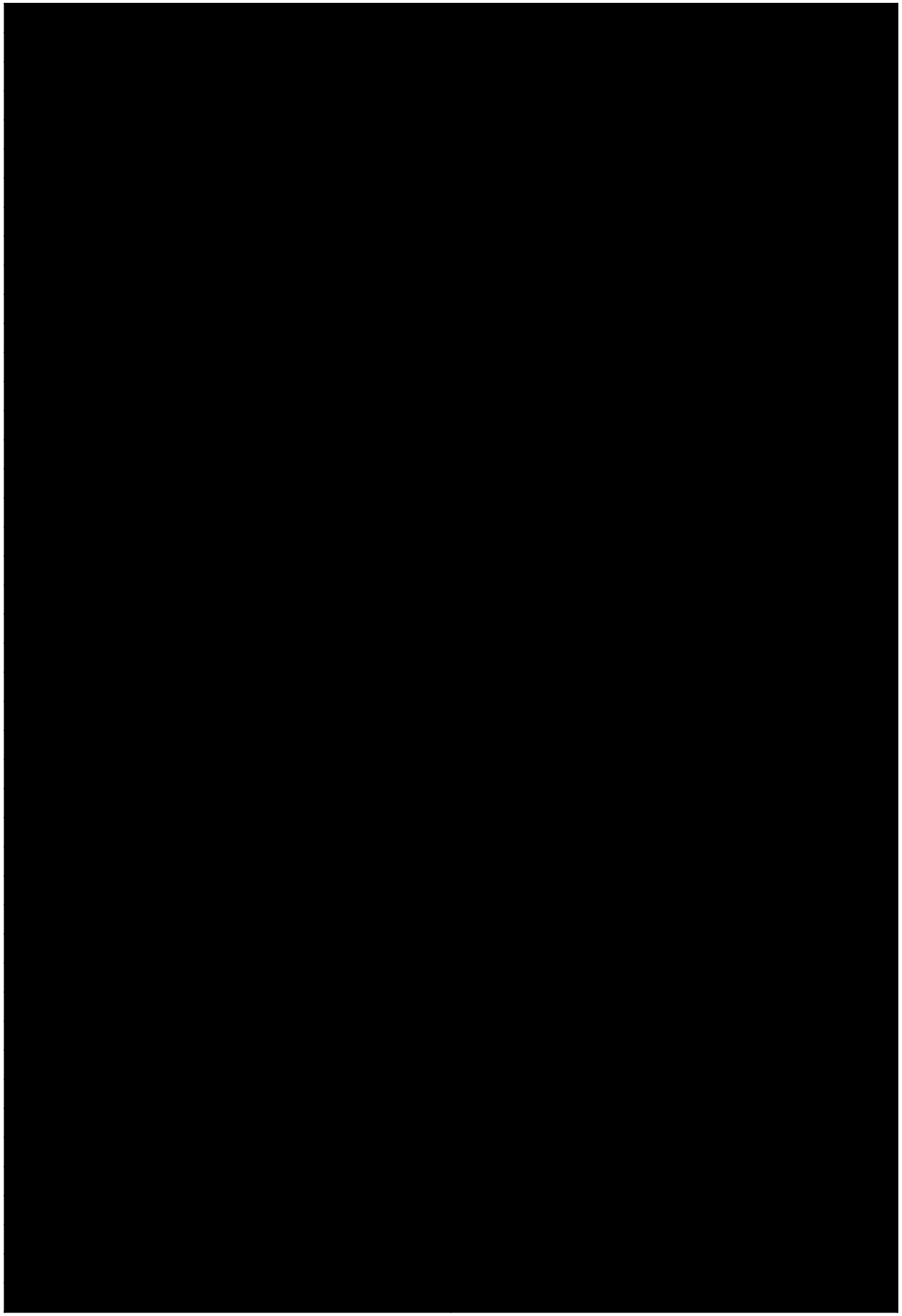
Other F-GHG:	CASRN:
If an F-GHG chemical is not listed, search EPA's Substance Registry Services (SRS) by registry number (CASRN) and enter chemical here. If an F-GHG constituent cannot be entering its name and, if available, CASRN [98.416(a)(1)]	





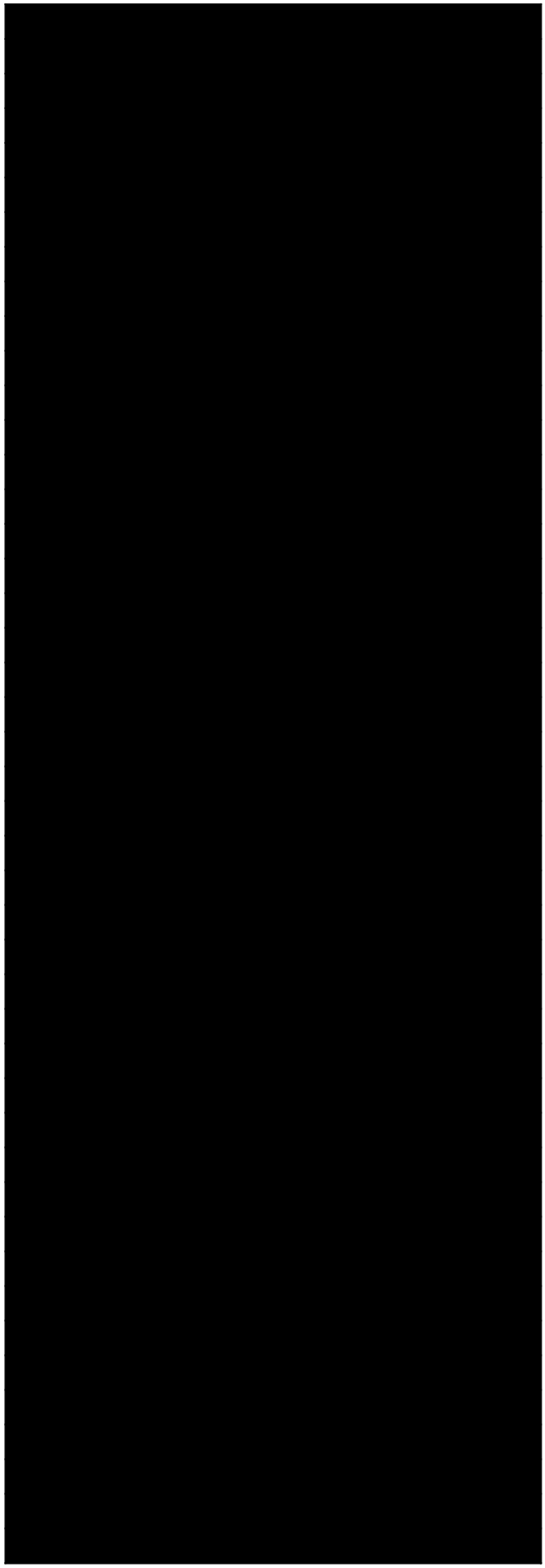


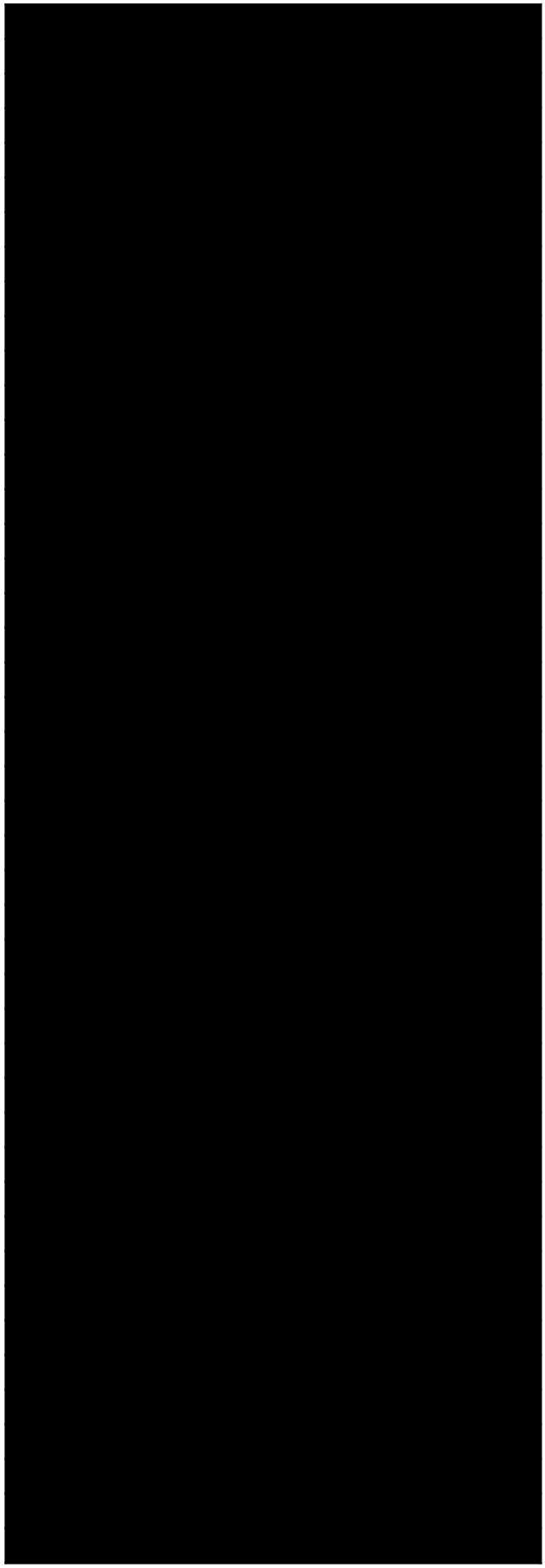


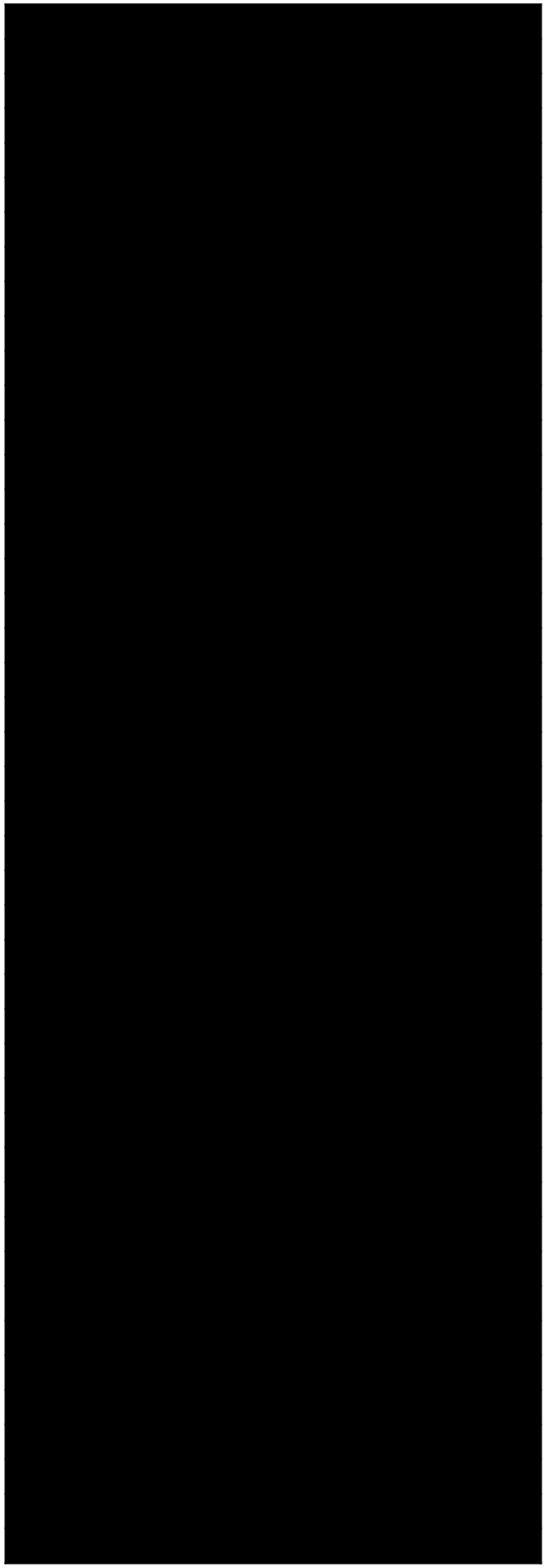


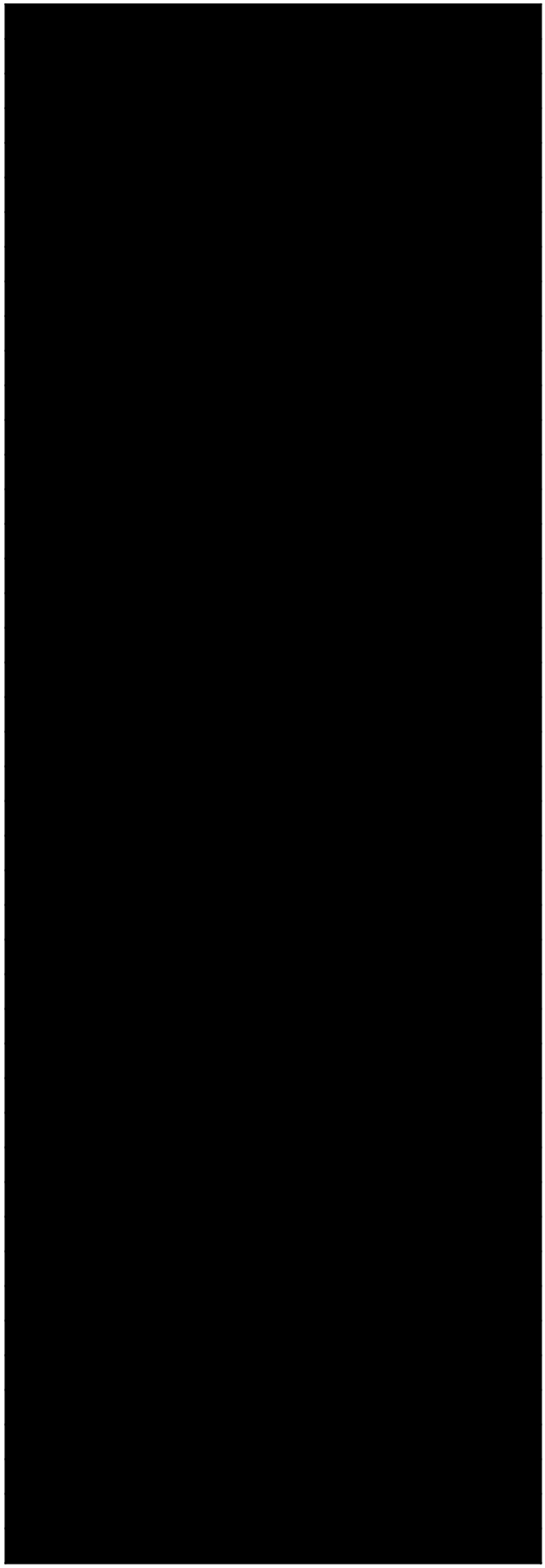
produced by the same process). Do not inclu

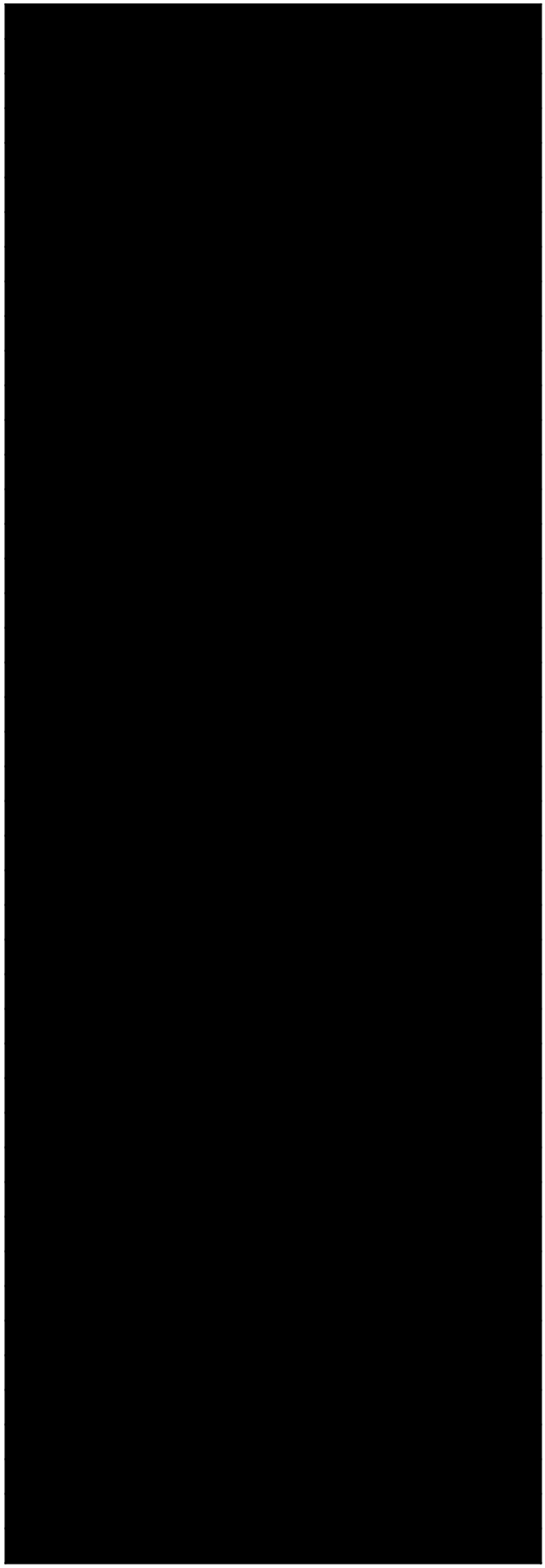
Chemical Formula:
y name and/or Chemical Abstracts Service found via SRS search, add the F-GHG by

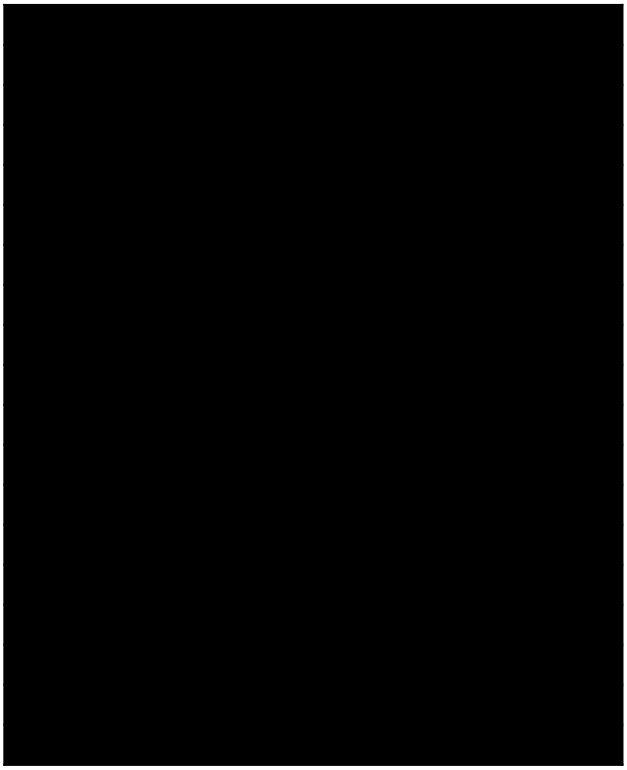






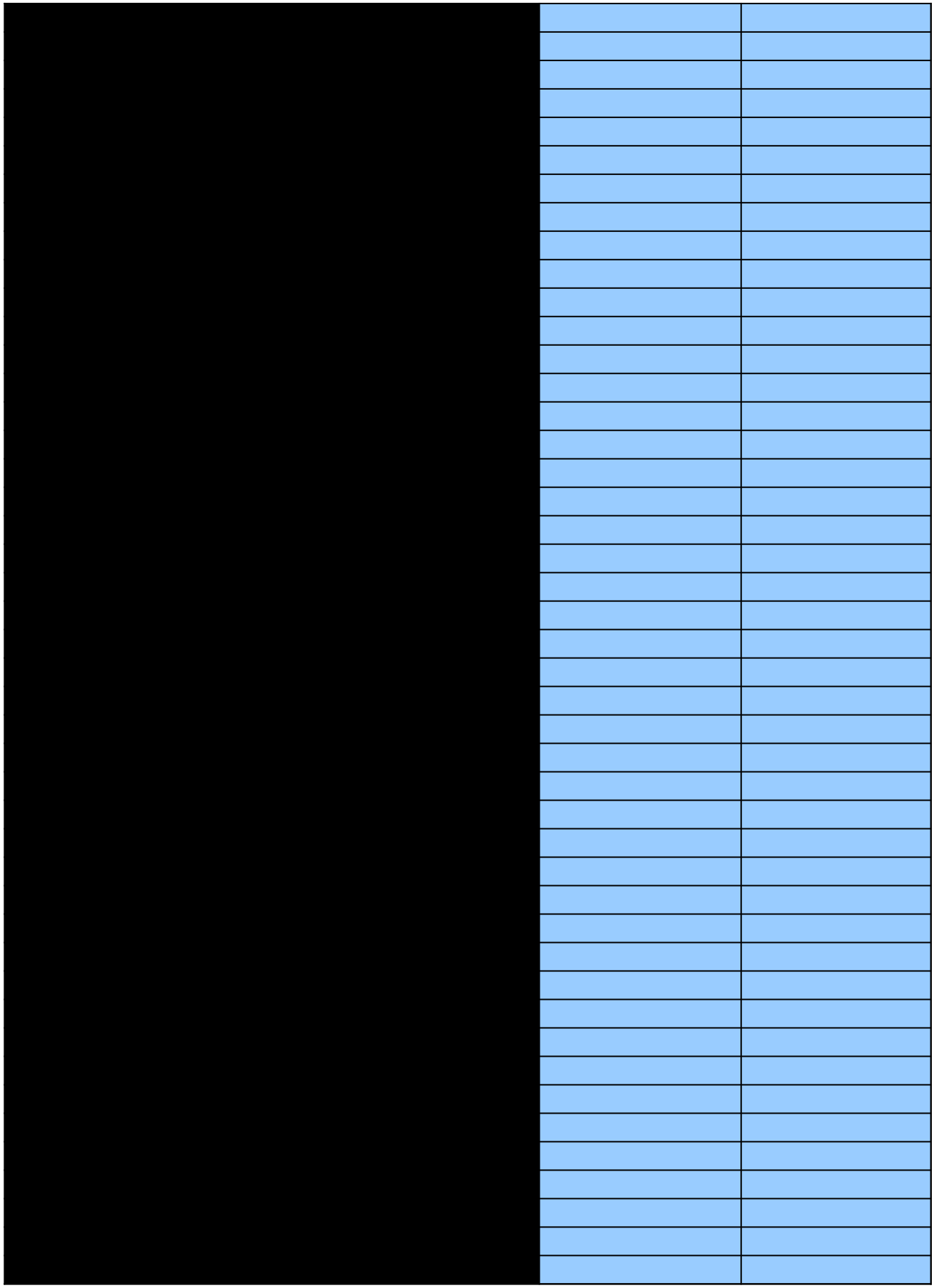


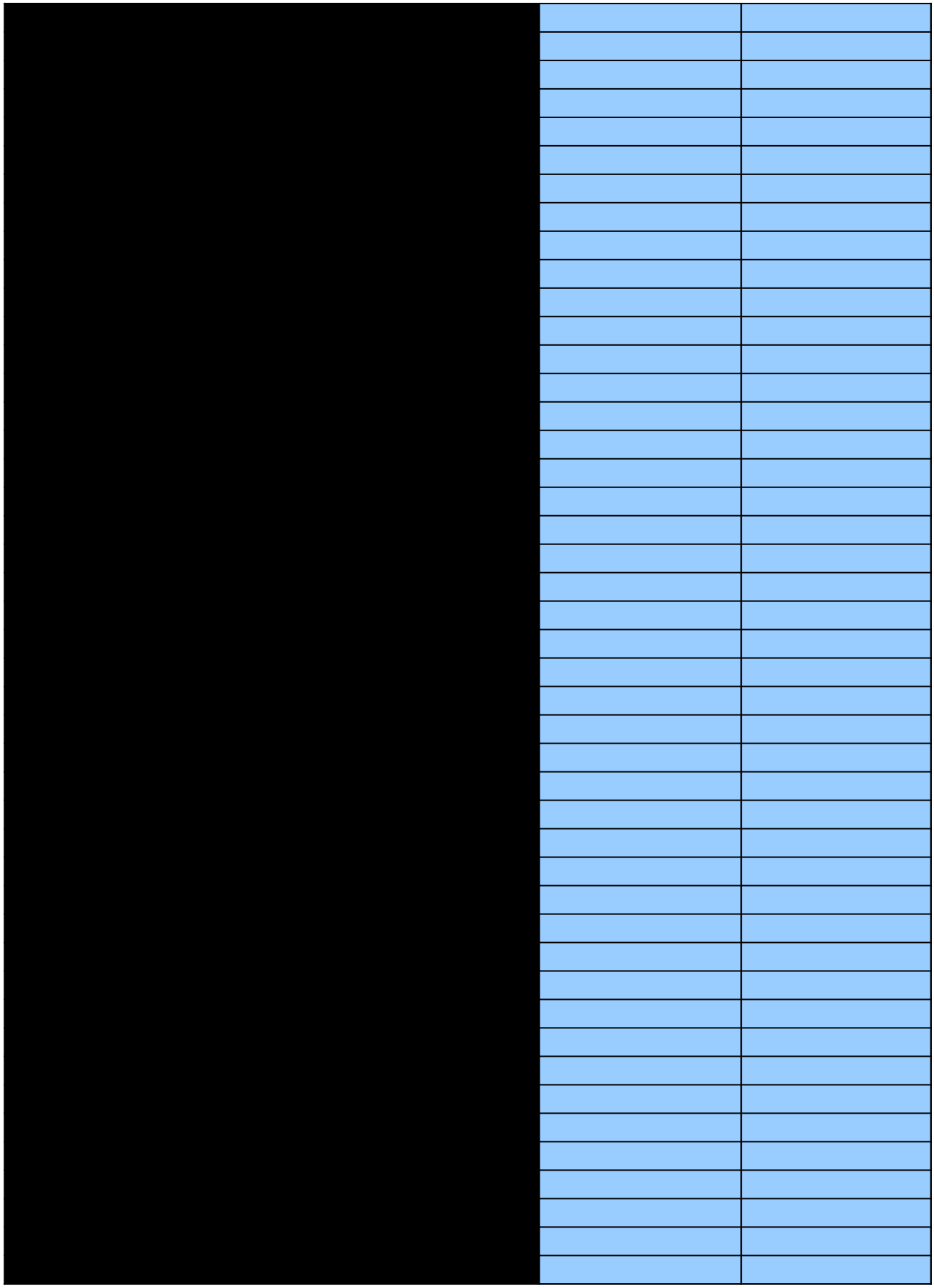


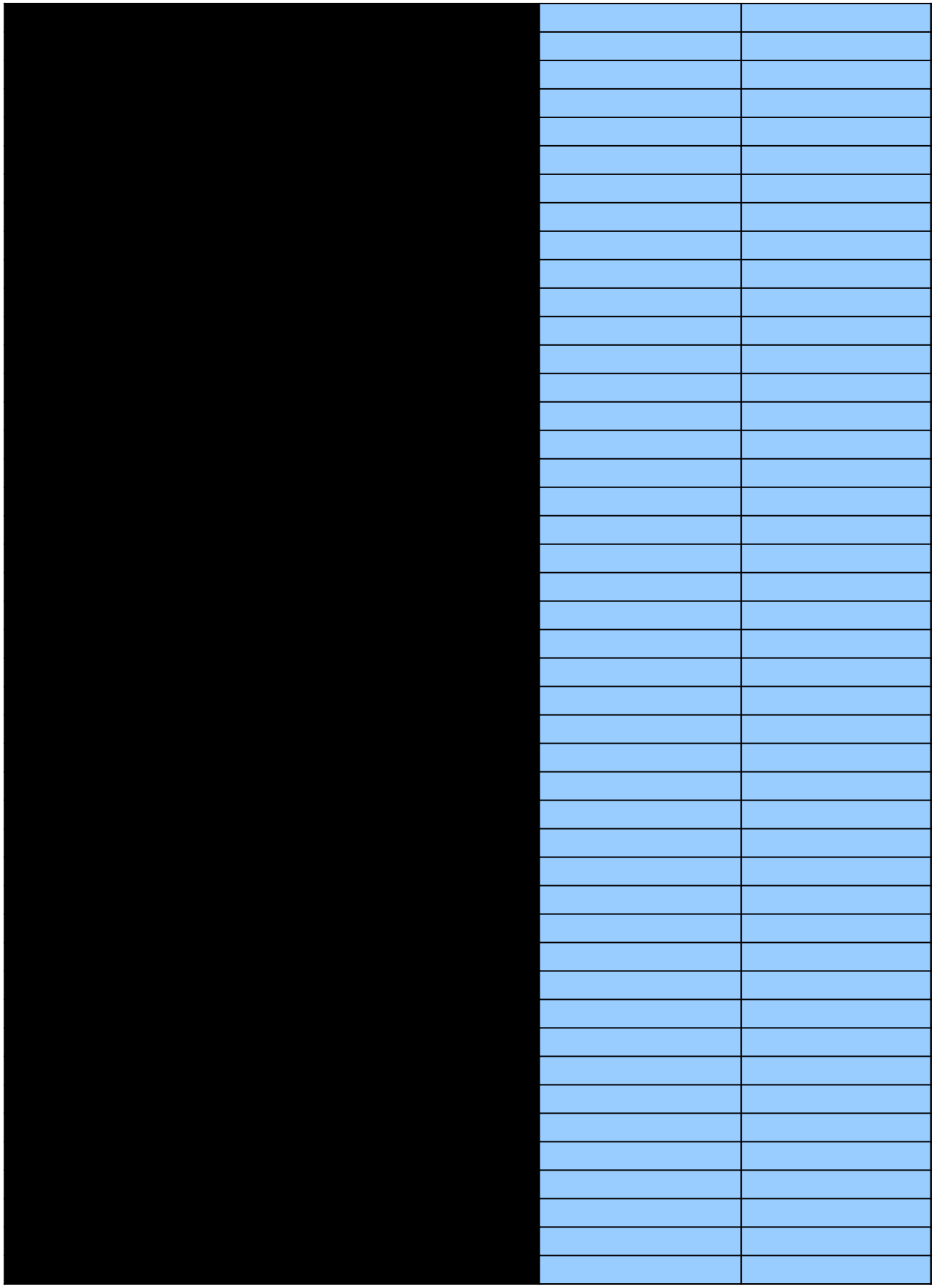


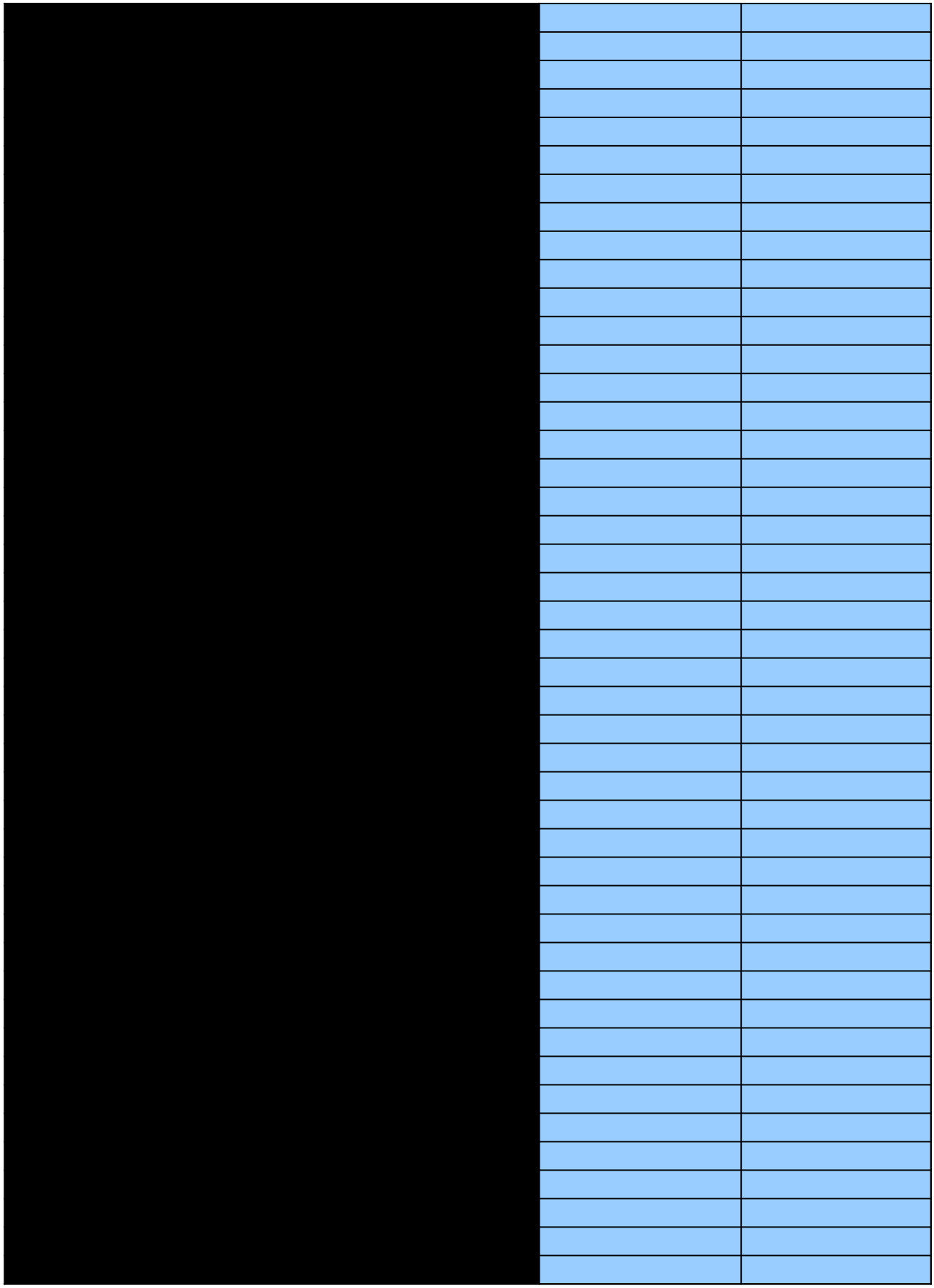
ude isolated intermediates that are produced and transformed at the same facility. Report all

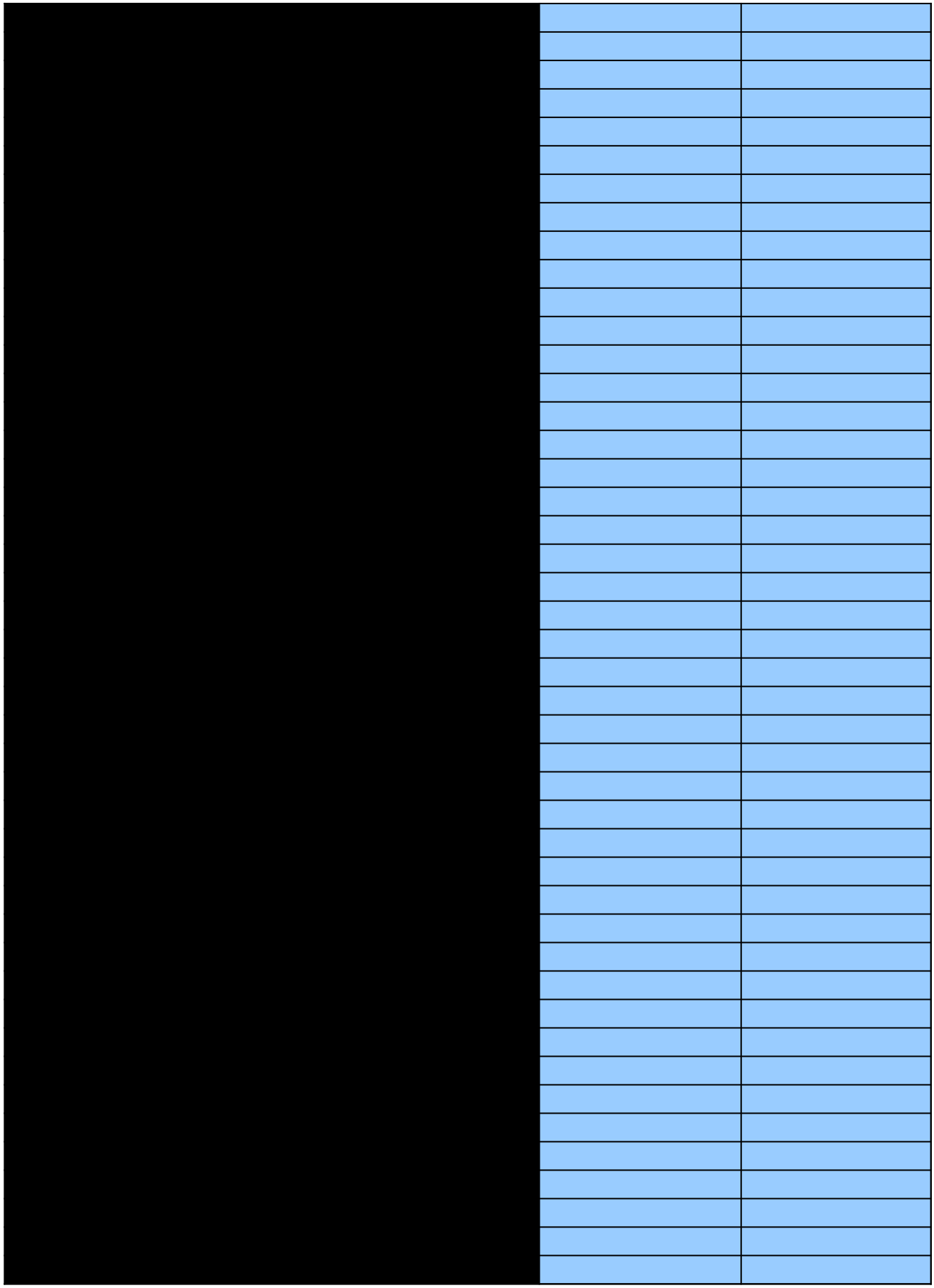
Specify F-GHG or F-HTF Category for Purposes of Estimating GWP (if necessary) [98.3(c)(5)(ii)]	Mass measured coming out of the production process (metric tons) [98.416(a)(12)]	Was the mass determined using a missing data procedure? [98.416(a)(16)]

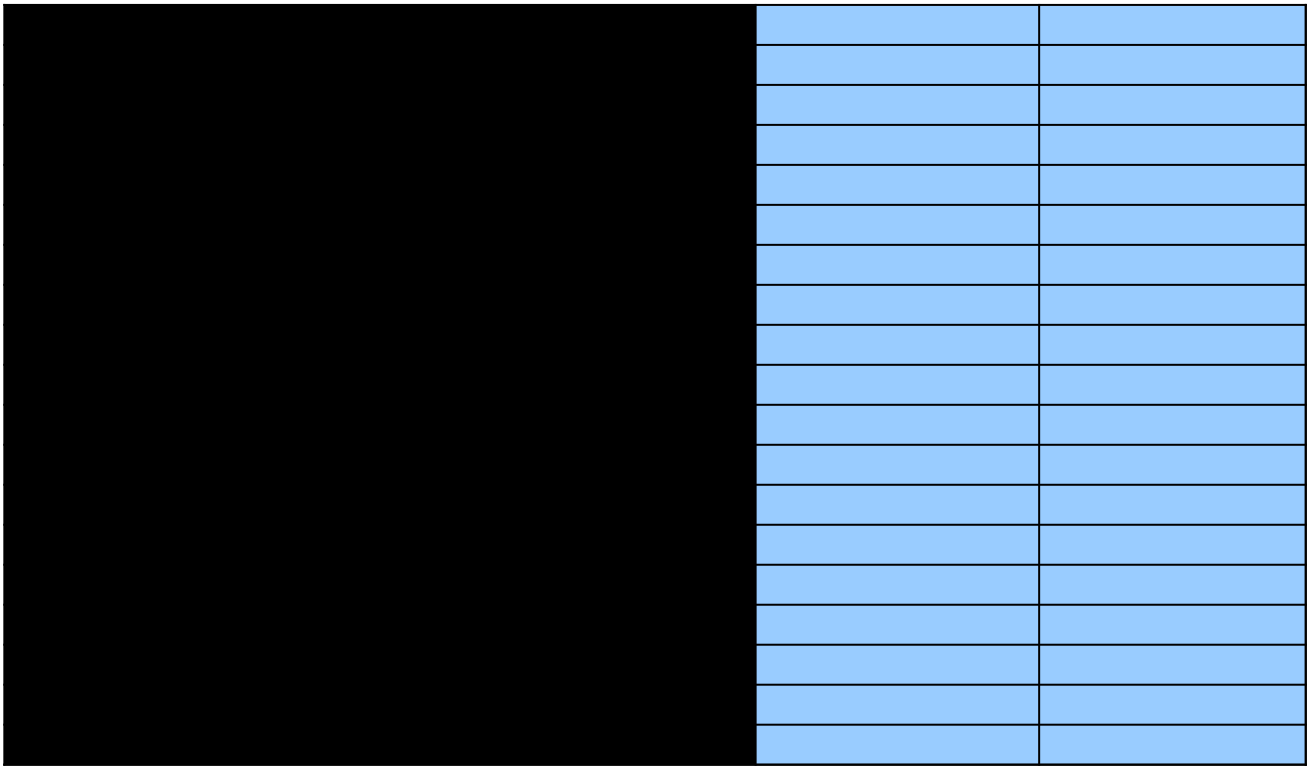






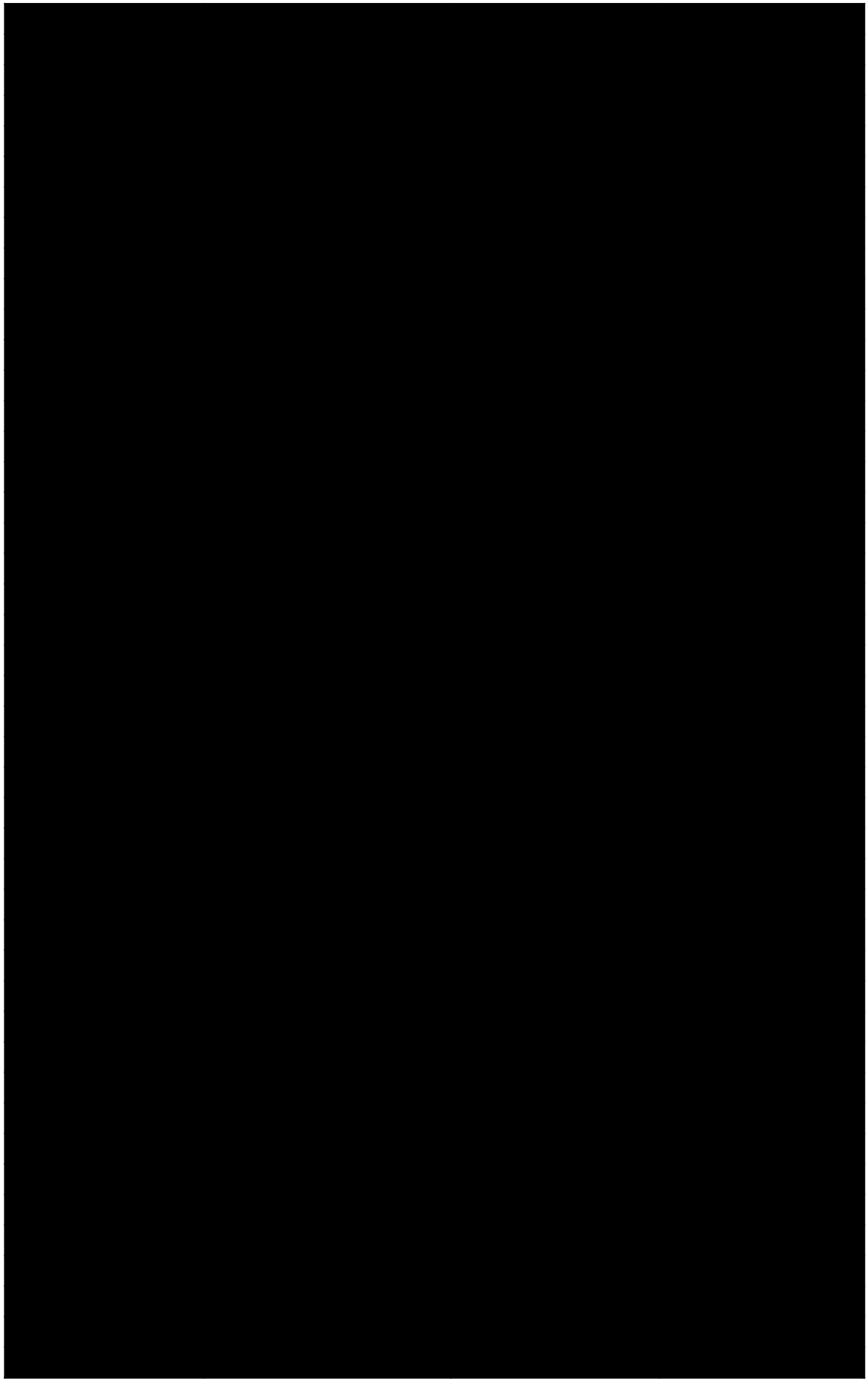


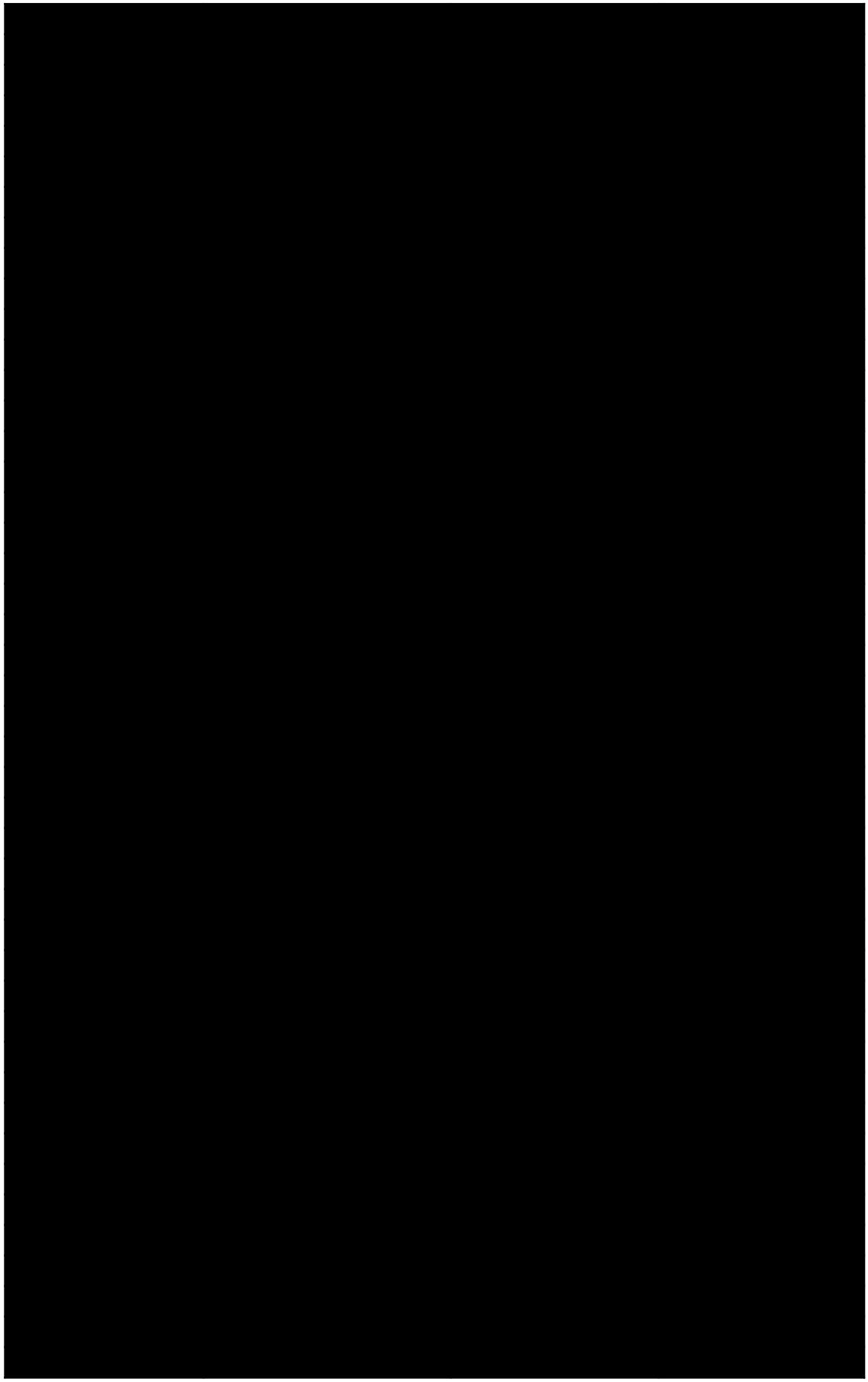


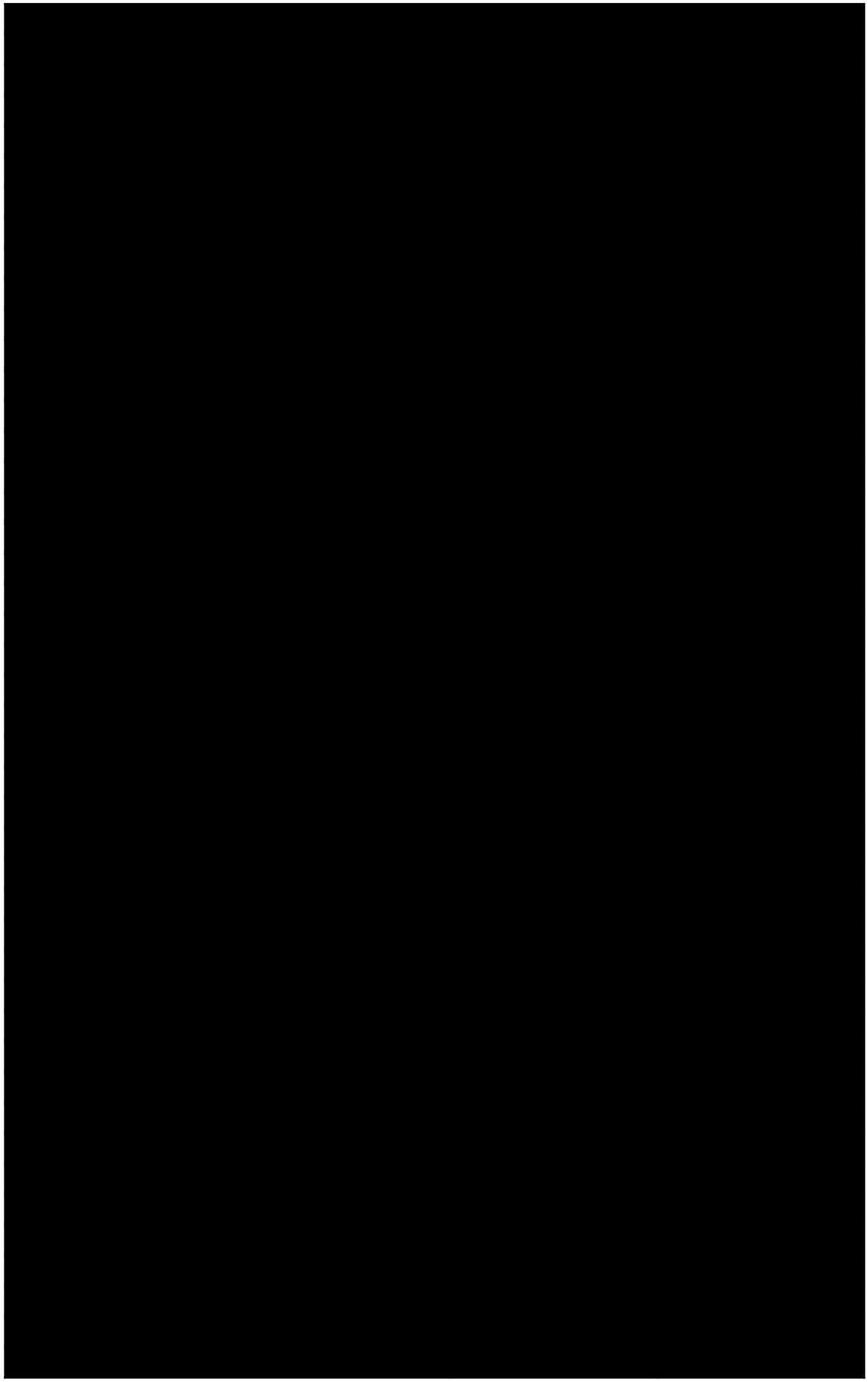


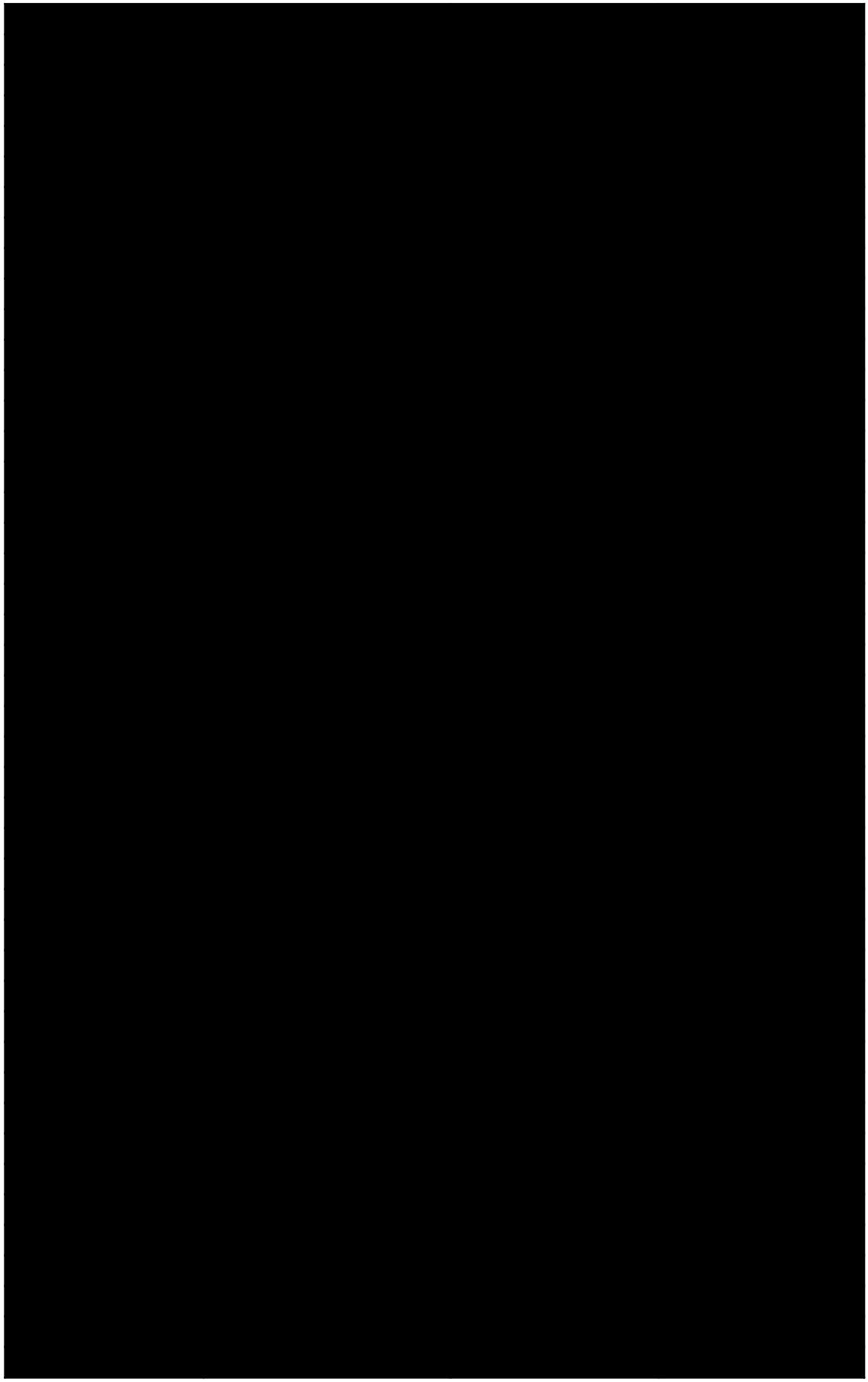
significant figures (including fractions of a metric ton, if applicable).

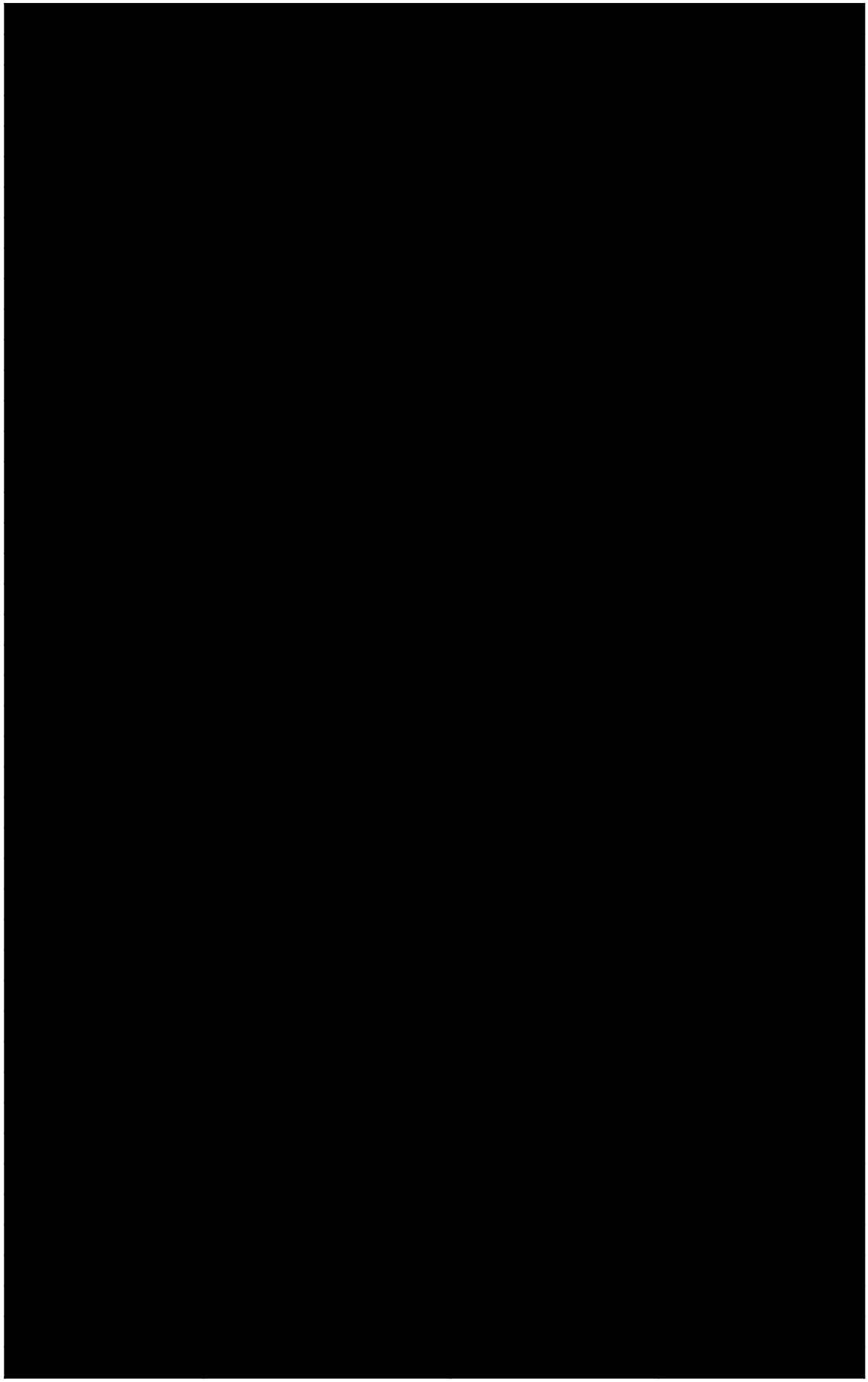
Mass determined using the missing data procedure (metric tons) [98.416(a)(16)]	Number of hours that a missing data procedure was used to measure the mass coming out of the production process [98.416(a)(16)]	Reason a missing data procedure was used [98.416(a)(16)]	Method used to estimate the missing data [98.416(a)(16)]
[redacted]			



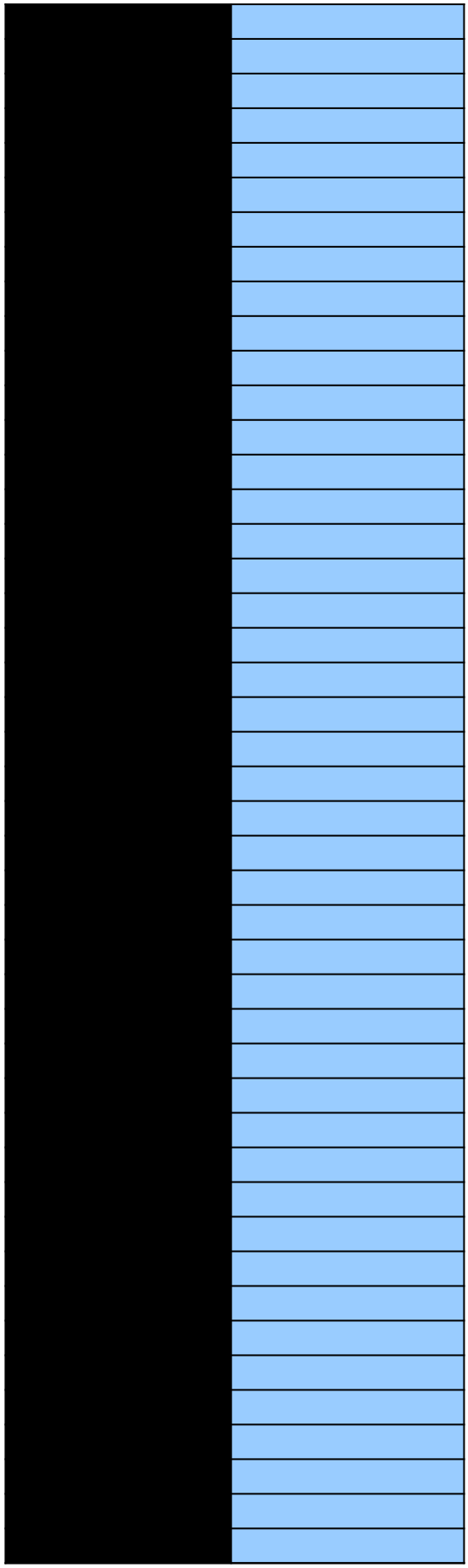


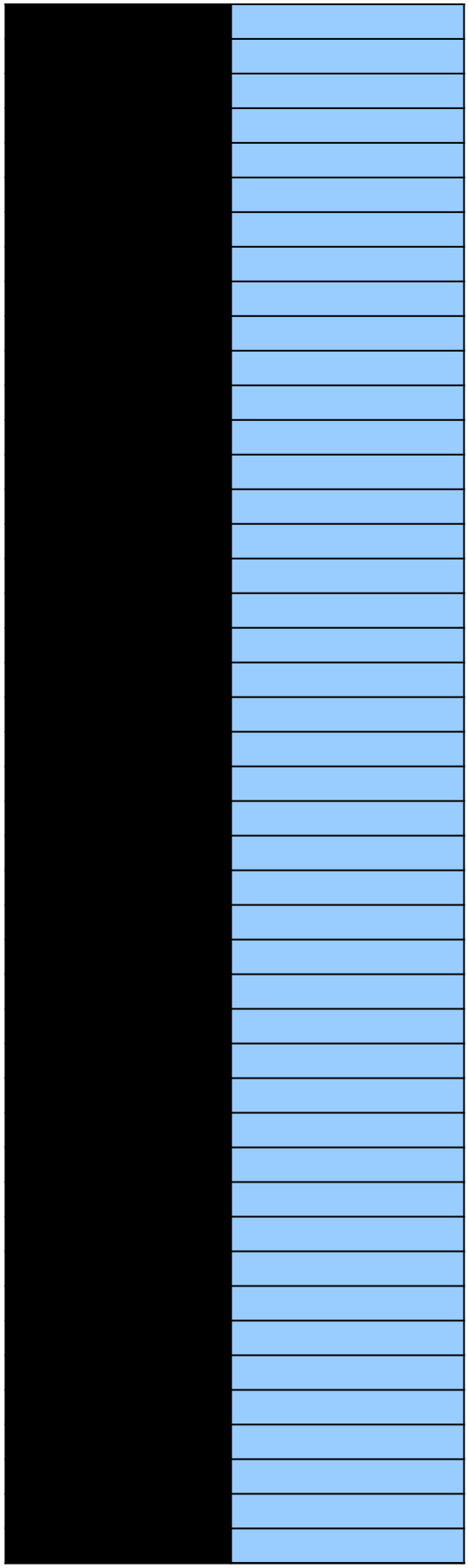


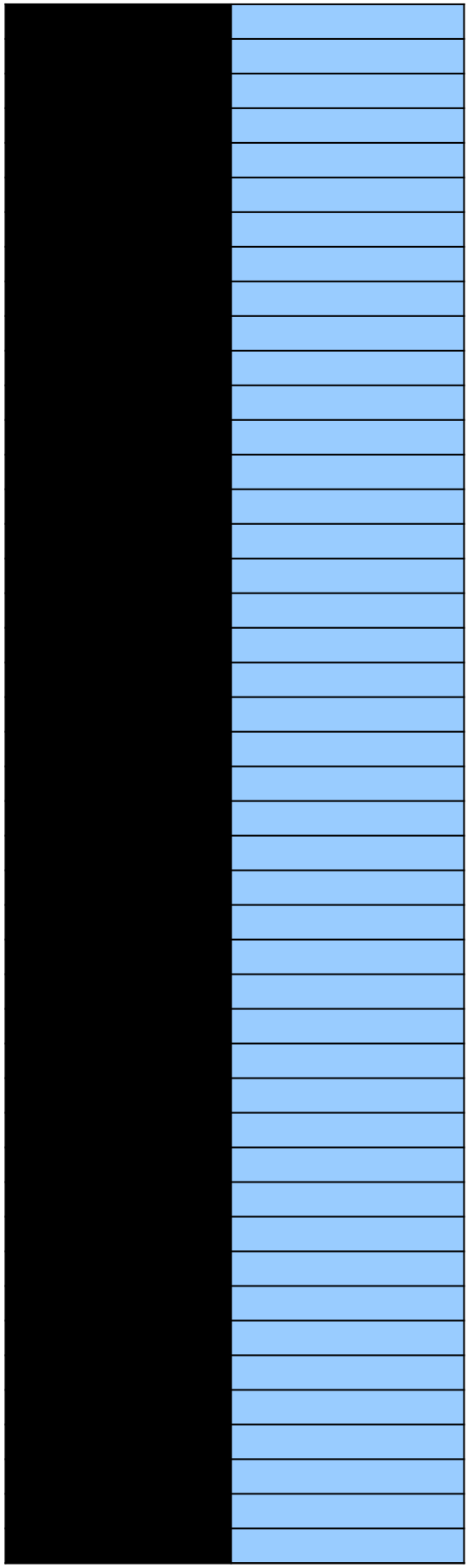


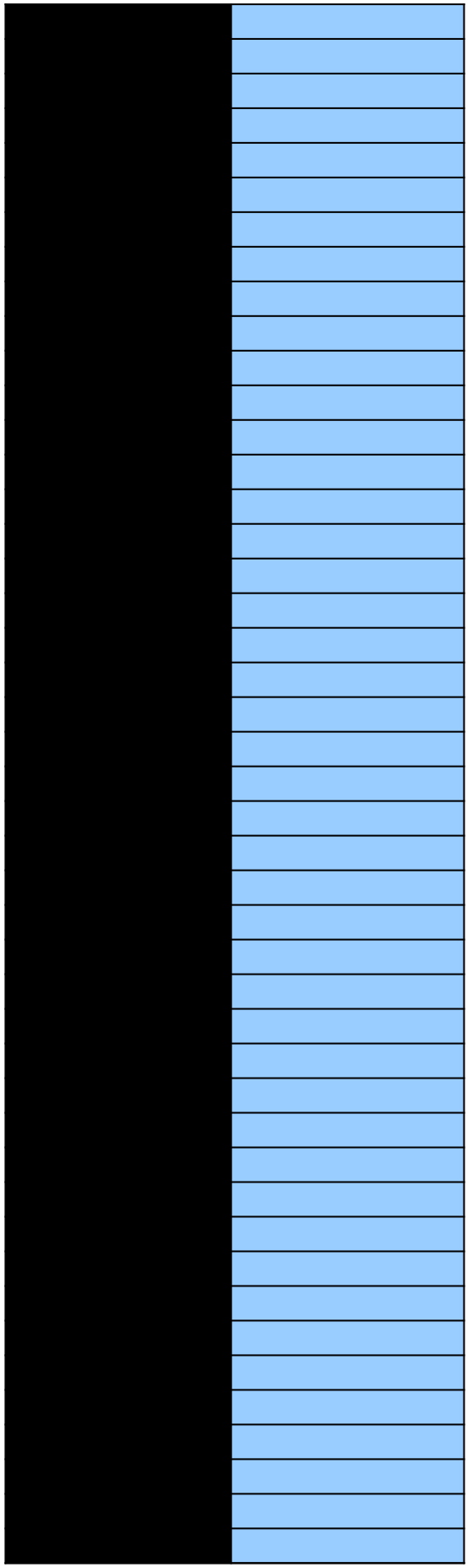


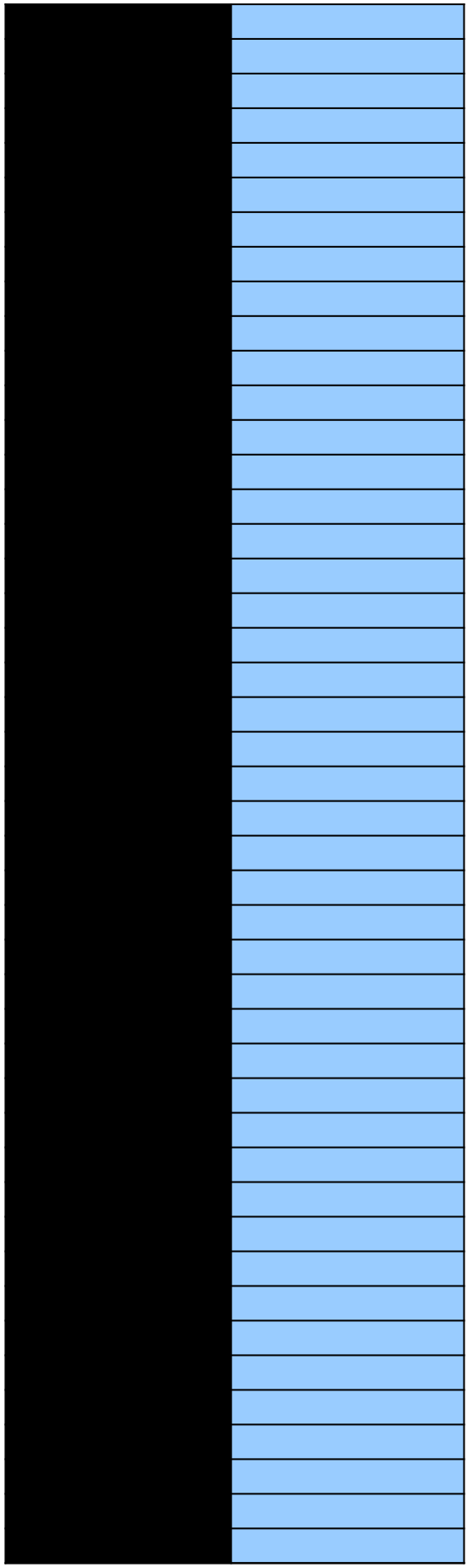
Specify the "Other" measurement method used to determine mass (if applicable) [98.416(a)(16)]	Mass added back into the production process (metric tons) [98.416(a)(13)]

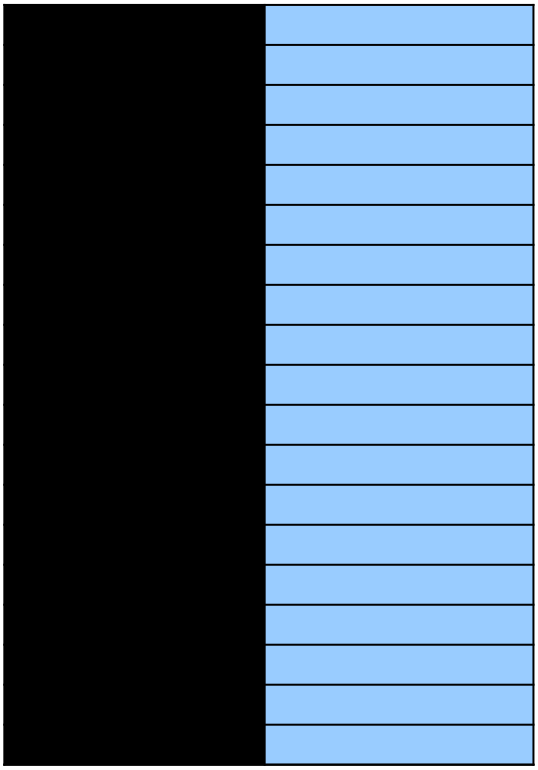












Subpart OO - Only for Facilities that Transform F-GHGs, F-HTFs,

Worksheet Instructions:	
Please identify the F-GHGs, F-HTFs, and/or N_2O transformed at the facility. For each F-C Columns C and D. A list of common F-GHGs is presented in Col C. If the product in ques products can be found on the Listed F-GHGs page.	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-s
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display
Workbook Navigation:	
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

Part 2b - Transformation Process Information

Instructions: Identify each F-GHG, F-HTF, and N_2O transformed by the process. Do

	Unique Transformation Process Identifier [98.416(a)]	Gas In (if not listed, select "Search Extended Li GHG or F-HTF not listed" and e
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and/or N_2O

11/23/2020

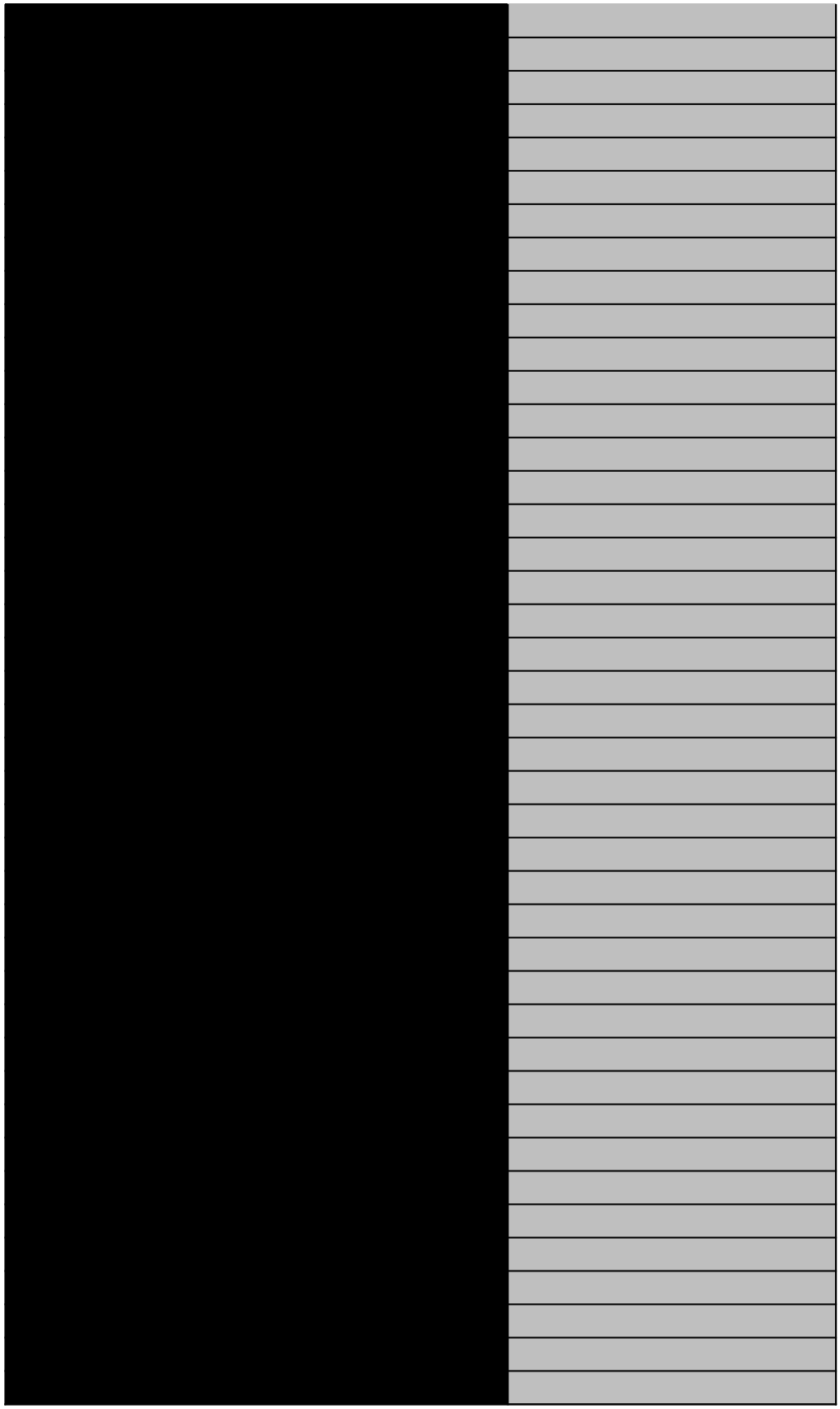
GHG, F-HTFs, and/or N_2O transformed, identify process in Column B and the
stion is not present, in Column C then select “Search Extended List” and find t

suppliers-industrial-greenhouse-gases
/help/Reporting+Form+Instructions
/help/Optional+Calculation+Spreadsheet+Instructions

Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

not include isolated intermediates that are produced and transformed a

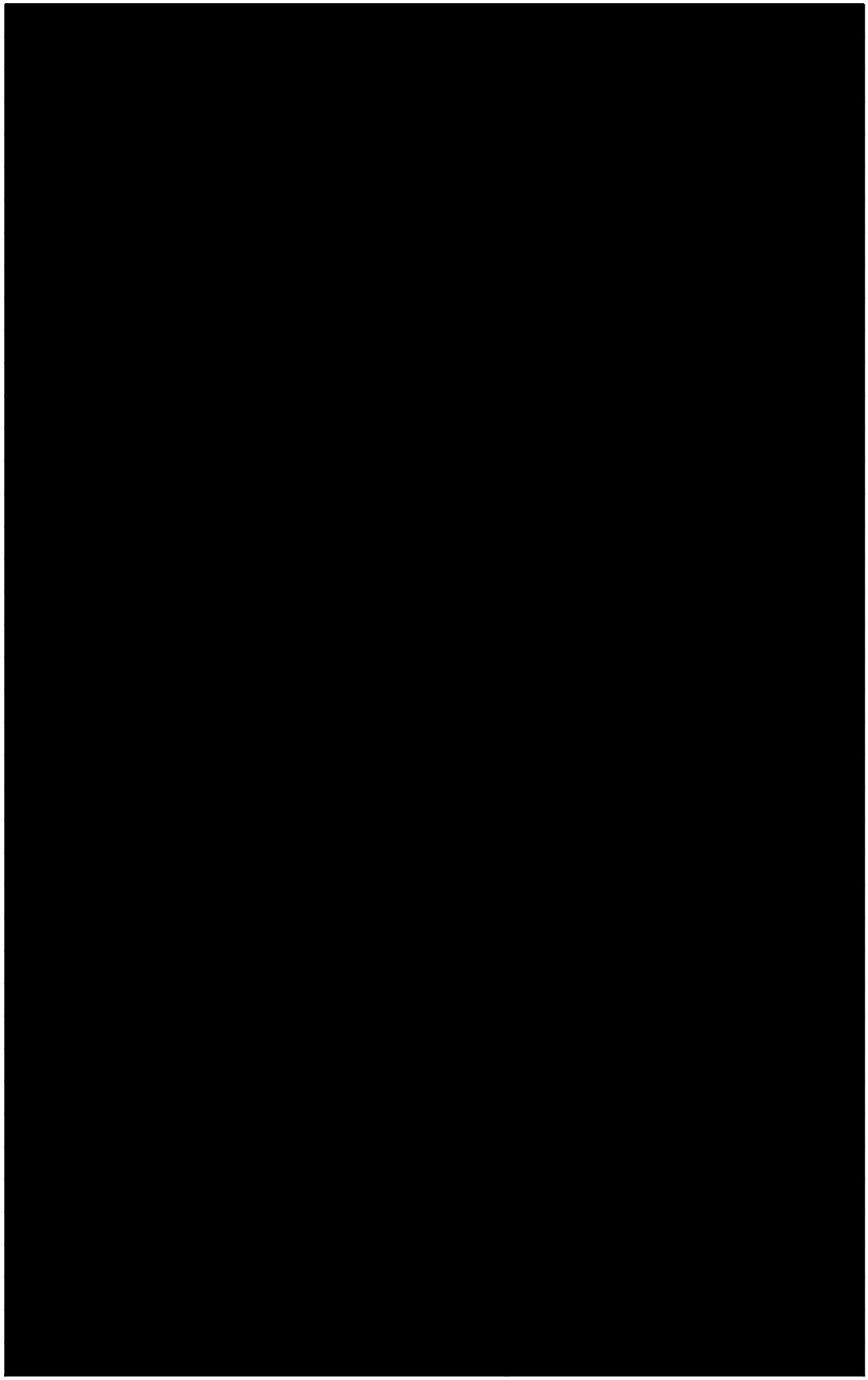
ses	CASRN:
ncluded F-GHG, F-HTF, or N_2O **st" to activate column 'D' for a comprehensive list or select "Other F-** **nter the information required in columns 'F', 'G', 'H', and 'I')** **[98.416(a)(2))]**	
[redacted]	



name of the F-GHG, F-HTF and/or N_2O in he product in Column D. A complete list of

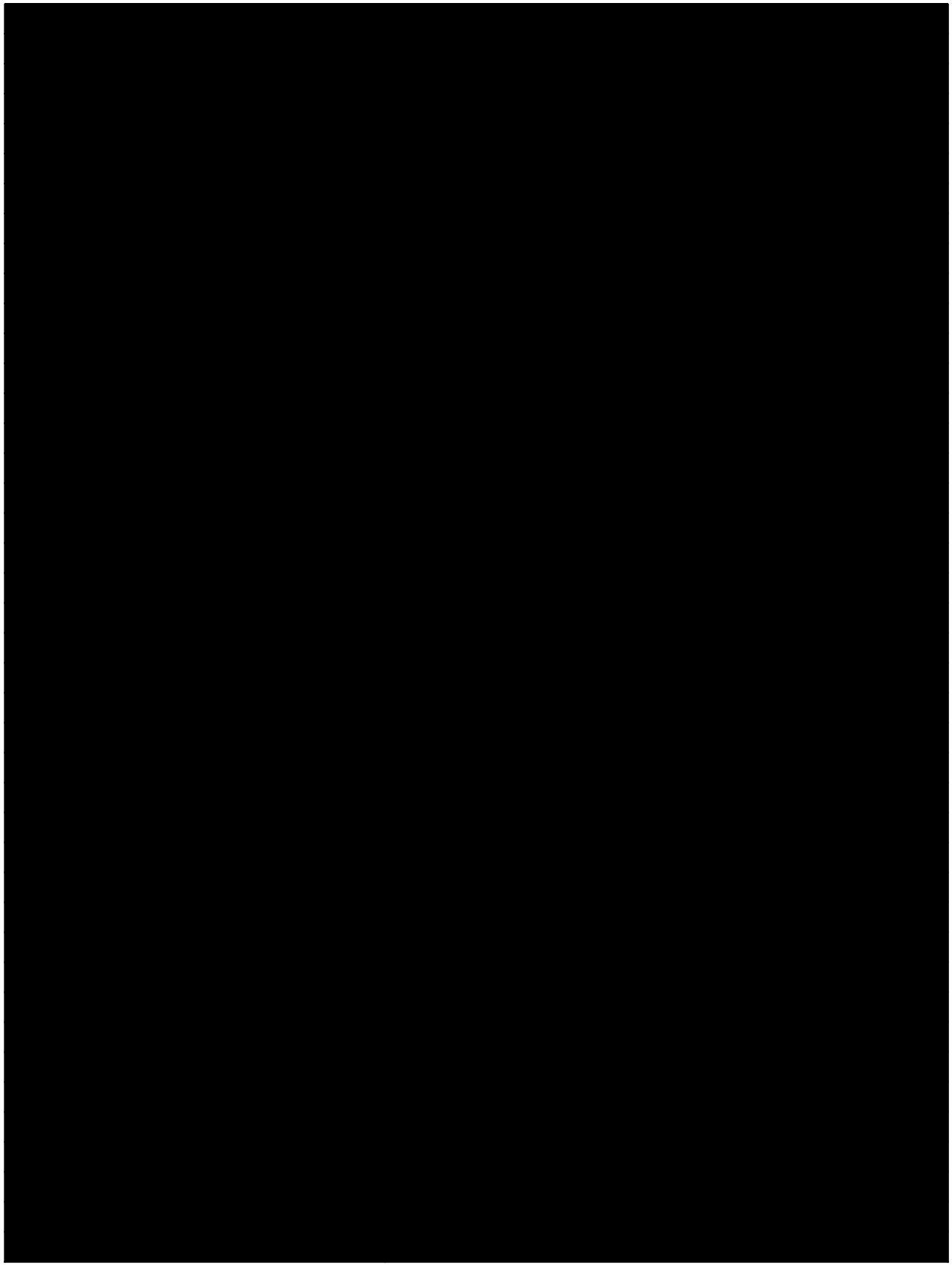
t the same facility. Report all significant figures (including fractions of a m

Other F-GHG:	CASRN:
If an F-GHG chemical is not listed, search EPA's Substance Registry Servic Abstracts Service registry number (CASRN) and enter chemical here. If an via SRS search, add the F-GHG by entering its name and, i [98.416(a)(1)]	



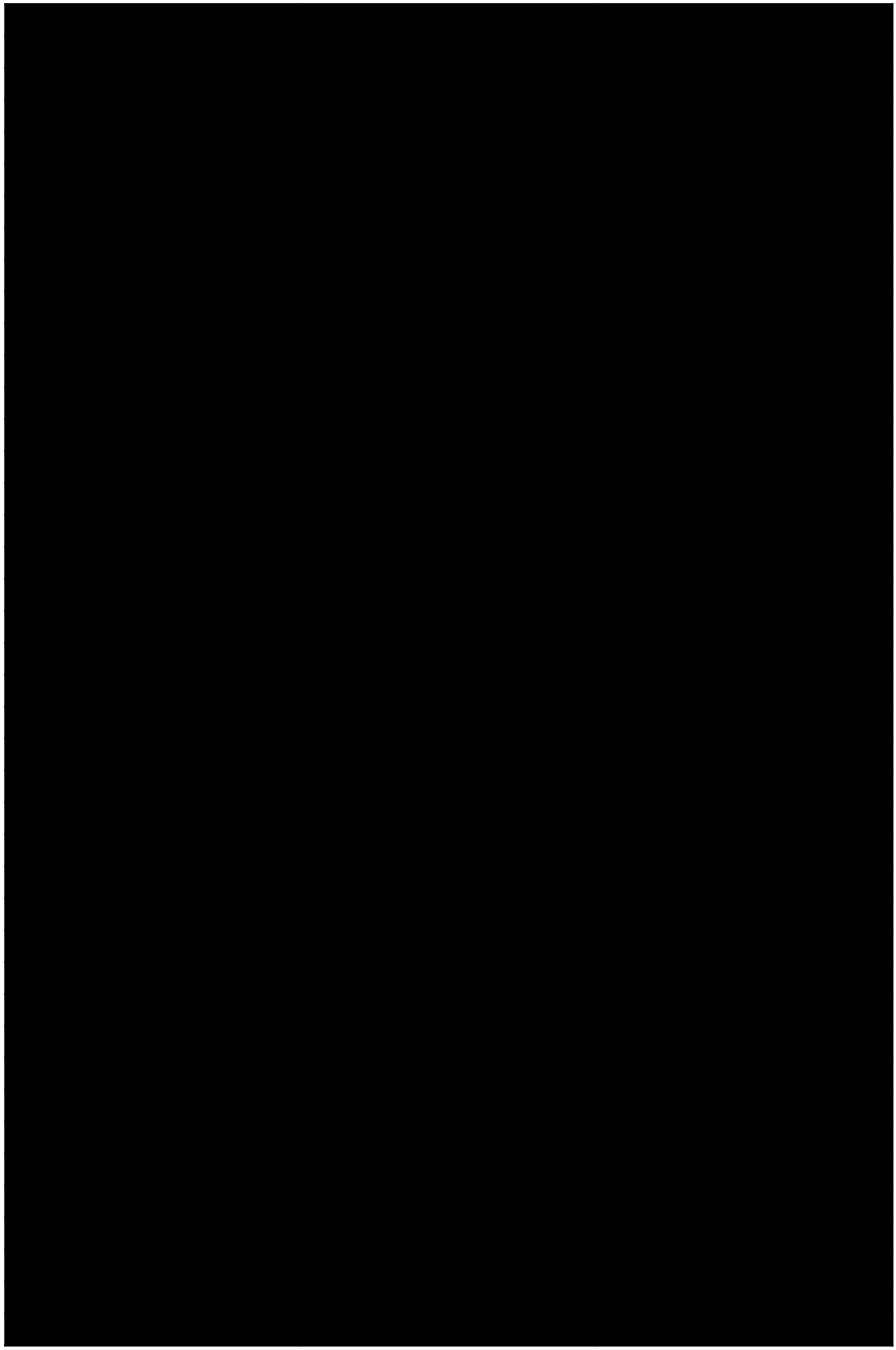
etric ton, if applicable).

Chemical Formula:	
ces (SRS) by name and/or Chemical F-GHG constituent cannot be found f available, CASRN	Specify F-GHG Category for Purposes of Estimating GWP (if necessary) [98.3(c)(5)(ii)]

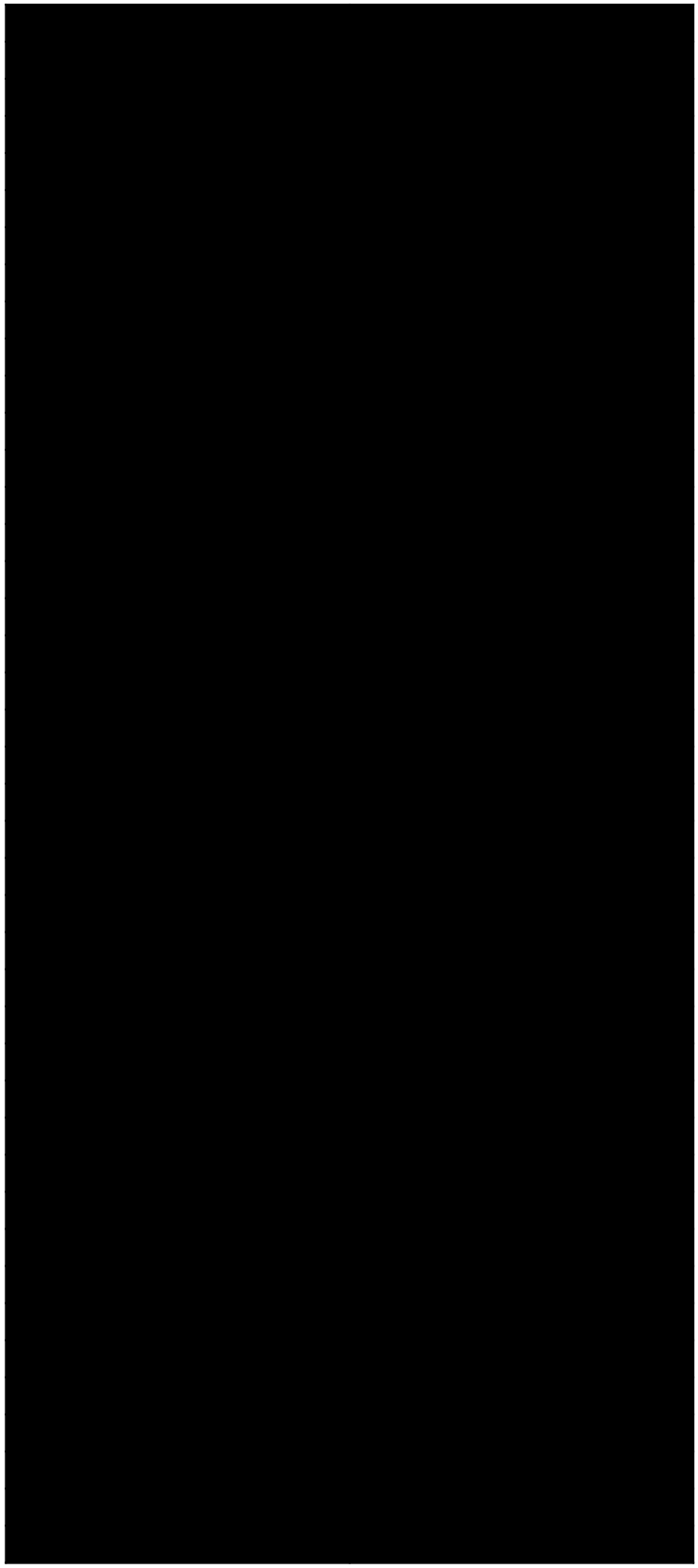


Mass transformed at facility (metric tons) [98.416(a)(2)]	Mass fed into the transformation process (metric tons) [98.416(a)(10)]	Was any of the mass that was fed into the transformation process determined using a missing data procedure? [98.416(a)(16)]

Mass determined using the missing data procedure (metric tons) [98.416(a)(16)]	Number of hours that a missing data procedure was used to measure the mass fed into the transformation process [98.416(a)(16)]	Reason a missing data procedure was used [98.416(a)(16)]



Method used to estimate the missing data [98.416(a)(16)]	Specify the "Other" measurement method used to determine mass (if applicable) [98.416(a)(16)]
[redacted]	



Subpart OO - Only for Facilities that Destroy Onsite F-GHGs and/or I

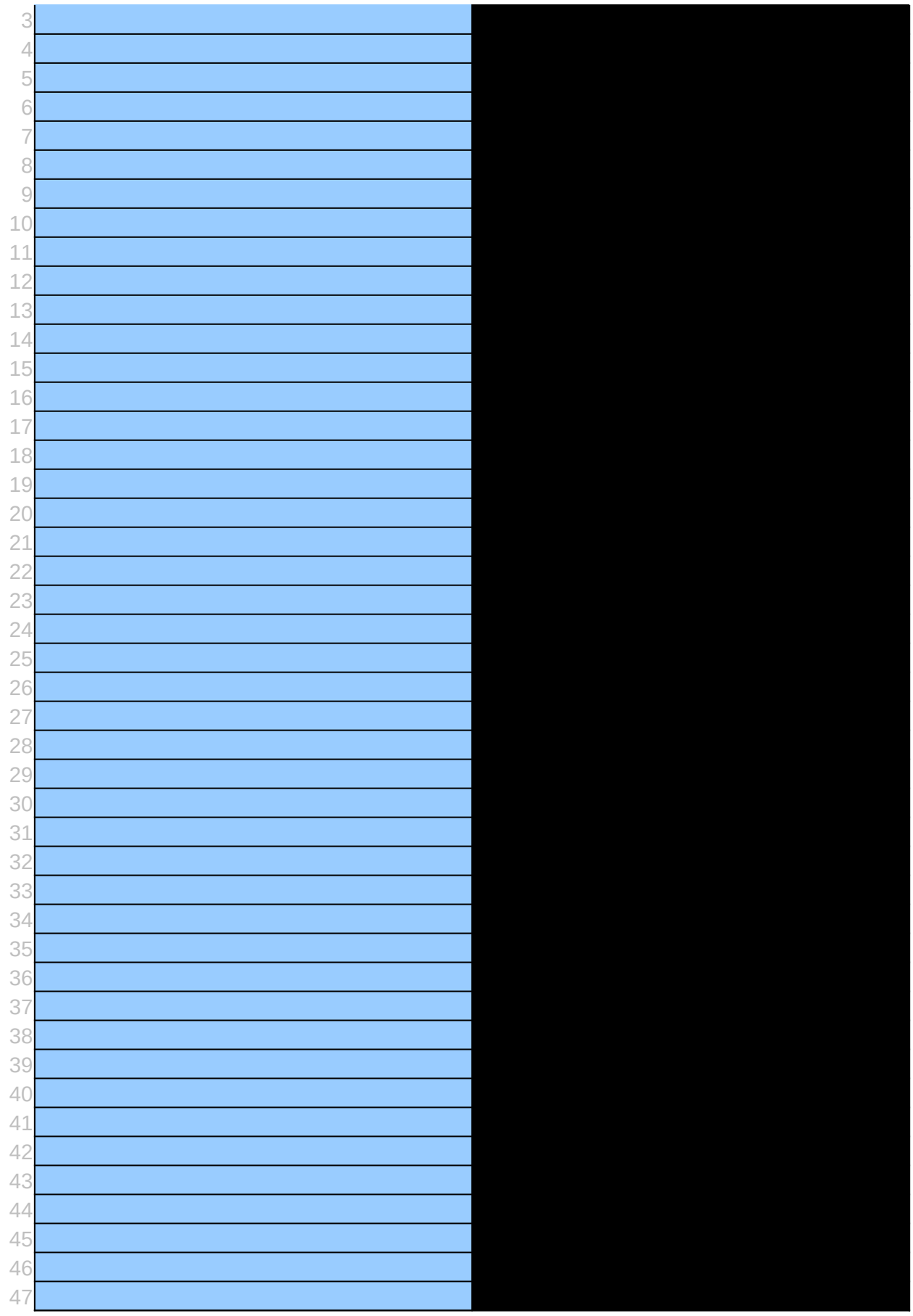
Worksheet Instructions:	
Please identify each F-GHG or F-HTF that was previously produced at any facility and that w destruction and quantities that are returned to your facility for reclamation but are found to be	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-s
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display
Workbook Navigation:	
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

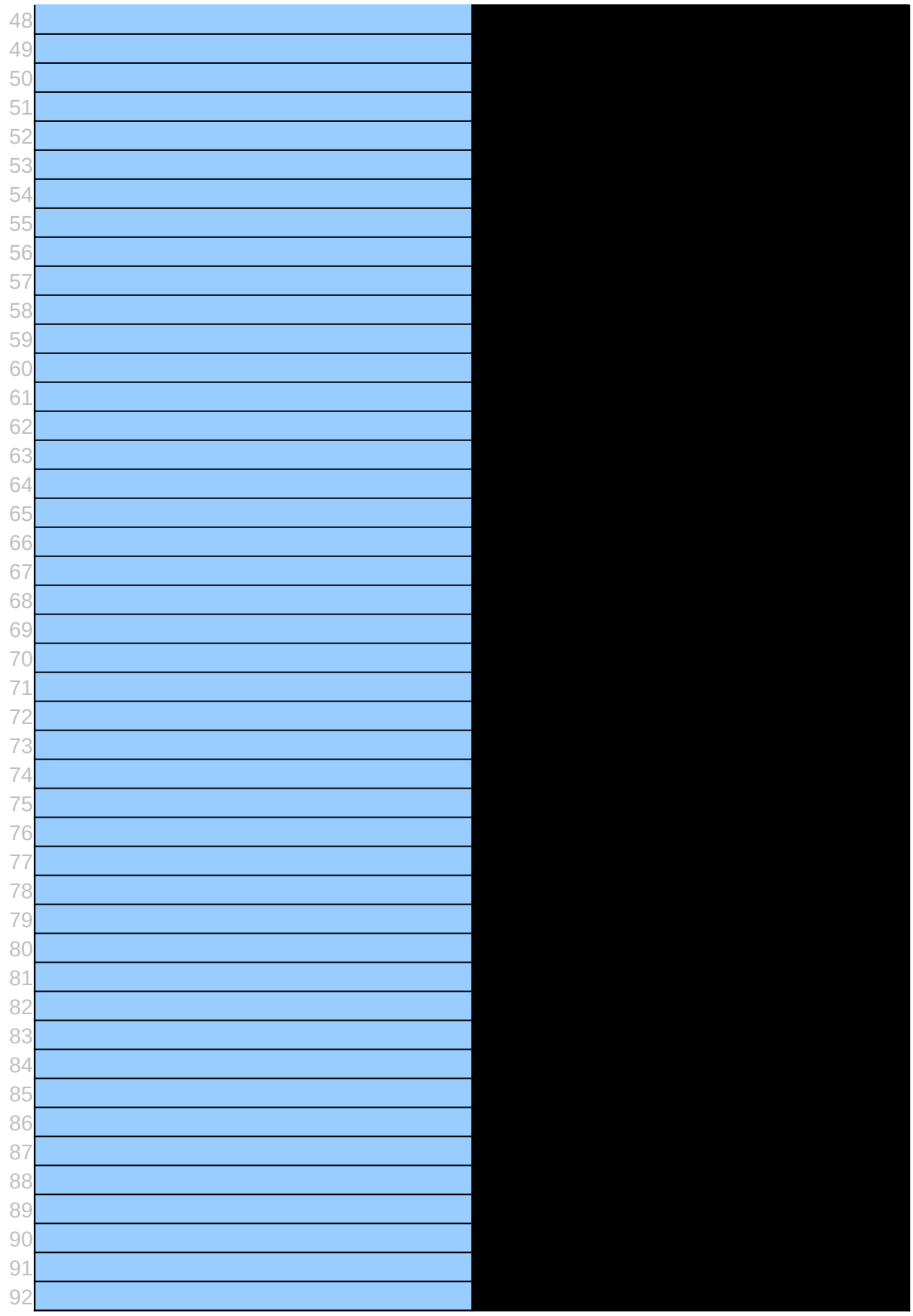
Part 3 - On-Site Destruction Information

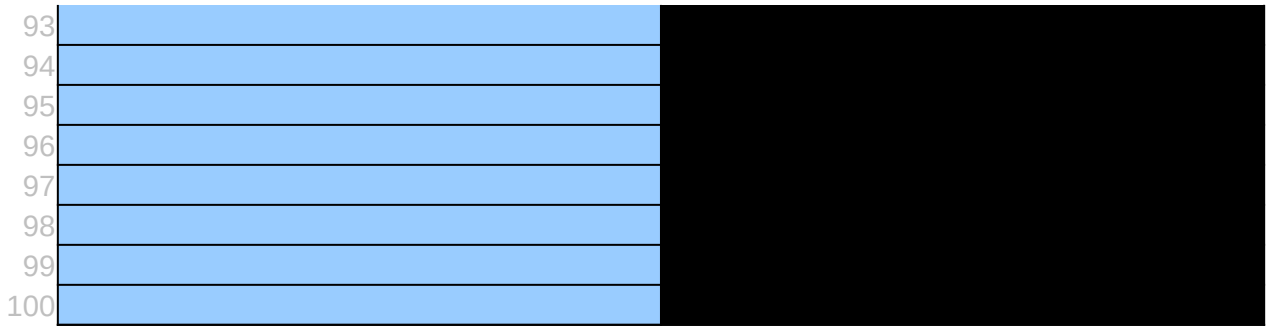
Instructions: Identify each F-GHG or F-HTF that was previously produced (as defined a to your facility by another facility for destruction and quantities that are returned to yo of a metric ton, if applicable).

Does your facility destroy F-GHGs or F-HTFs? [98.416(a)(3)]

	Gases
	Previously produced F-GHG or F-HTF that was destroyed at the **(if not listed, select "Search Extended List" to activate column 'C' for a comprehensiv or F-HTF not listed" and enter the information required in columns 'E', '** **[98.416(a)(3)]**
1	
2	







F-HTFs

11/23/2020

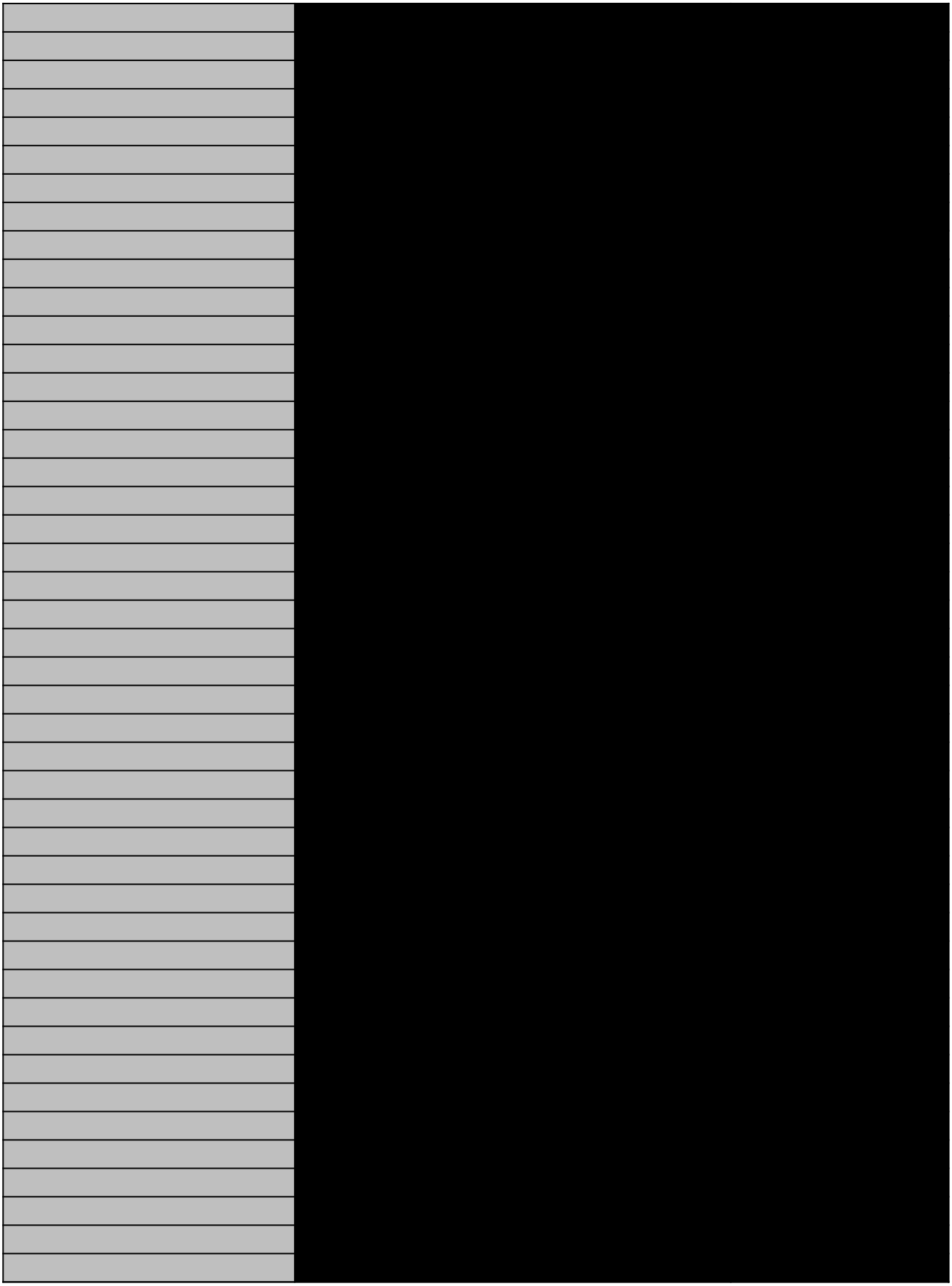
as destroyed at your facility. For example, this may include quantities that are shipped to your facility by
irretrievably contaminated.

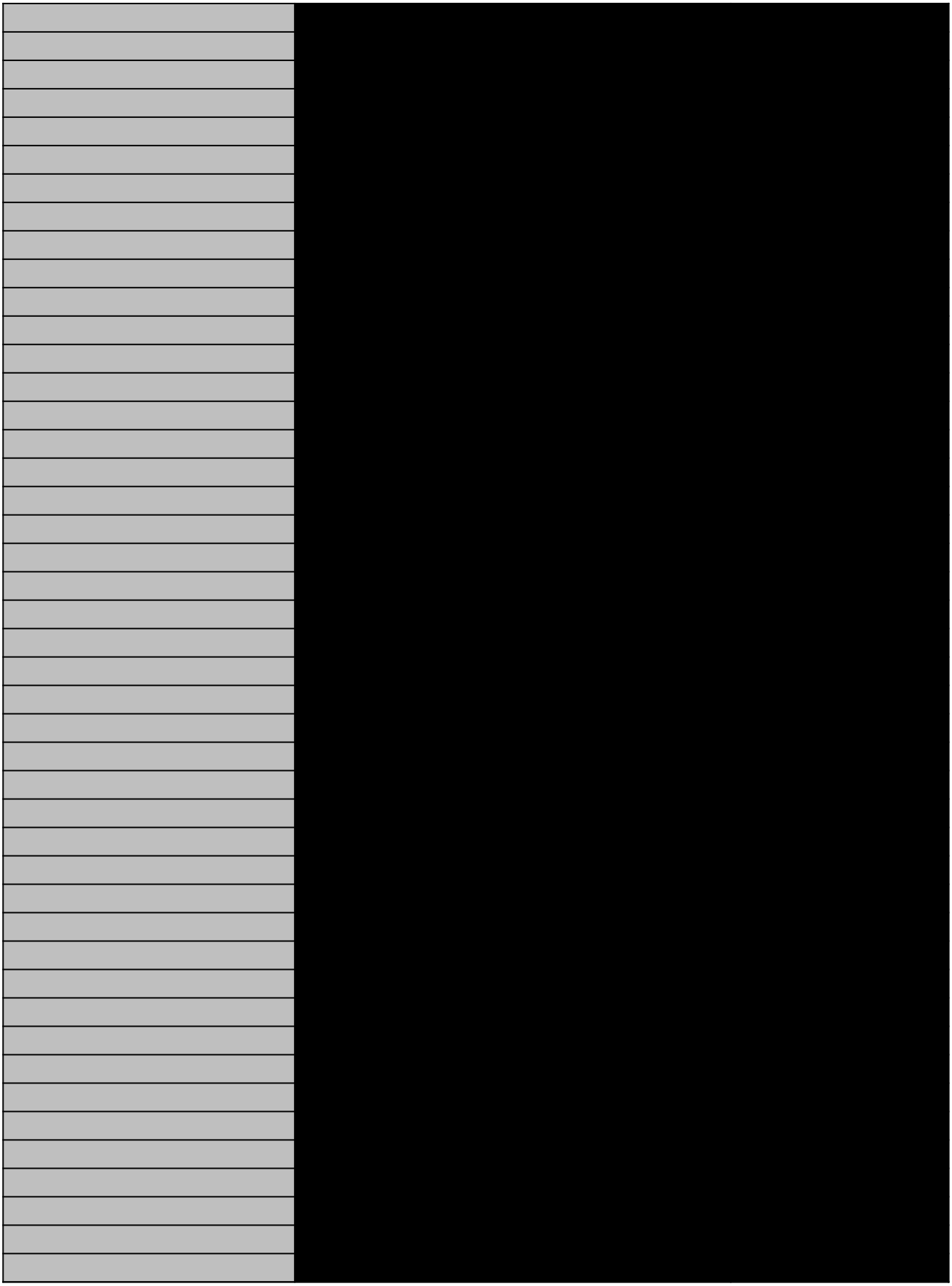
suppliers-industrial-greenhouse-gases
/help/Reporting+Form+Instructions
/help/Optional+Calculation+Spreadsheet+Instructions

Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

ıt 98.410(b), at any facility) and that was destroyed at your facility. For example, this may include
ur facility for reclamation but are found to be irretrievably contaminated. Report all significant f

CASRN	Other F-GHG:	CASRN:
facility e list or select "Other F-GHG F', 'G', and 'H')	If an F-GHG chemical is not listed, search EPA's Substance Regis and/or Chemical Abstracts Service registry number (CASRN) and GHG constituent cannot be found via SRS search, add the F-GHG available, CASRN [98.416(a)(1)]	

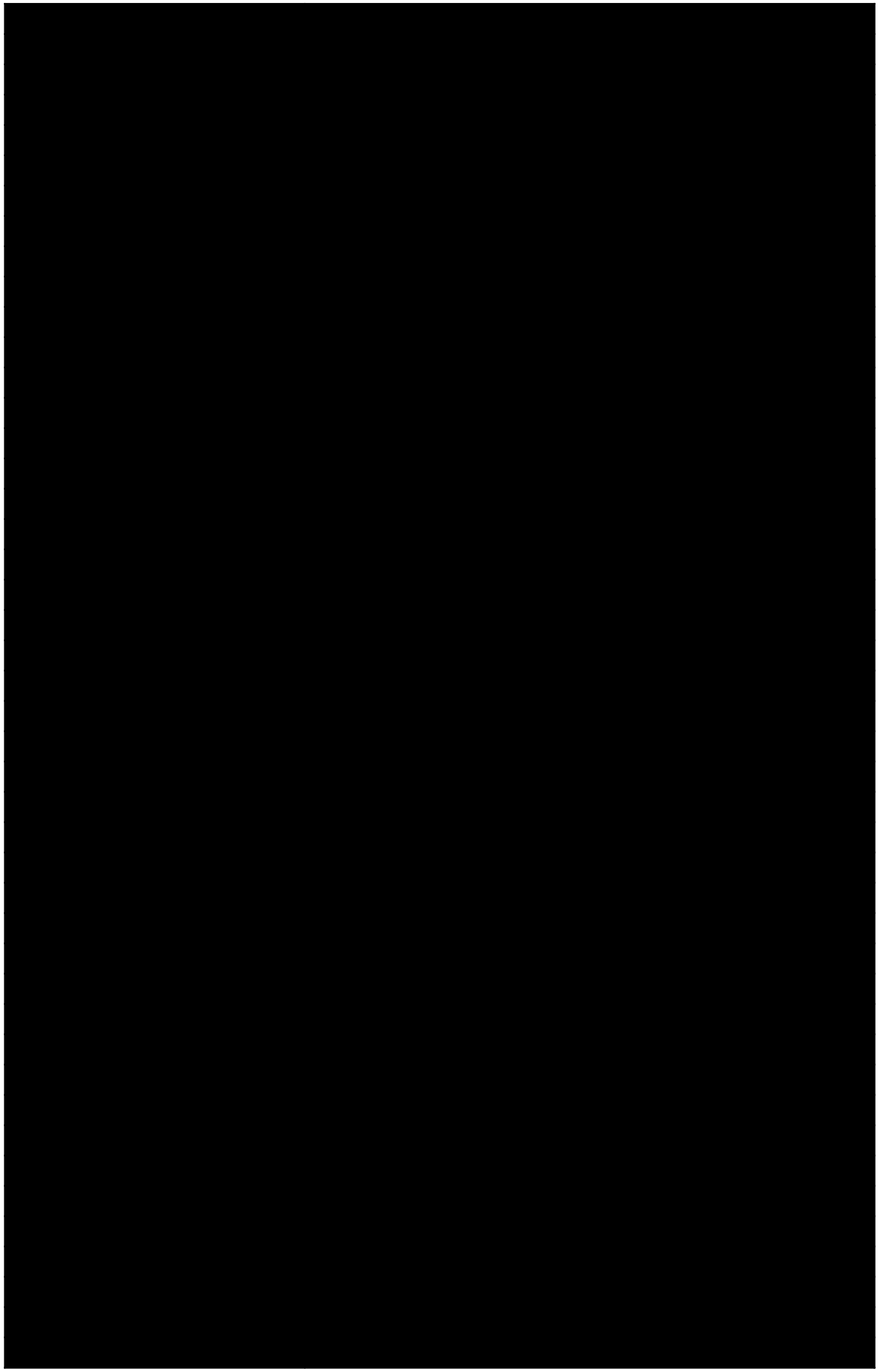


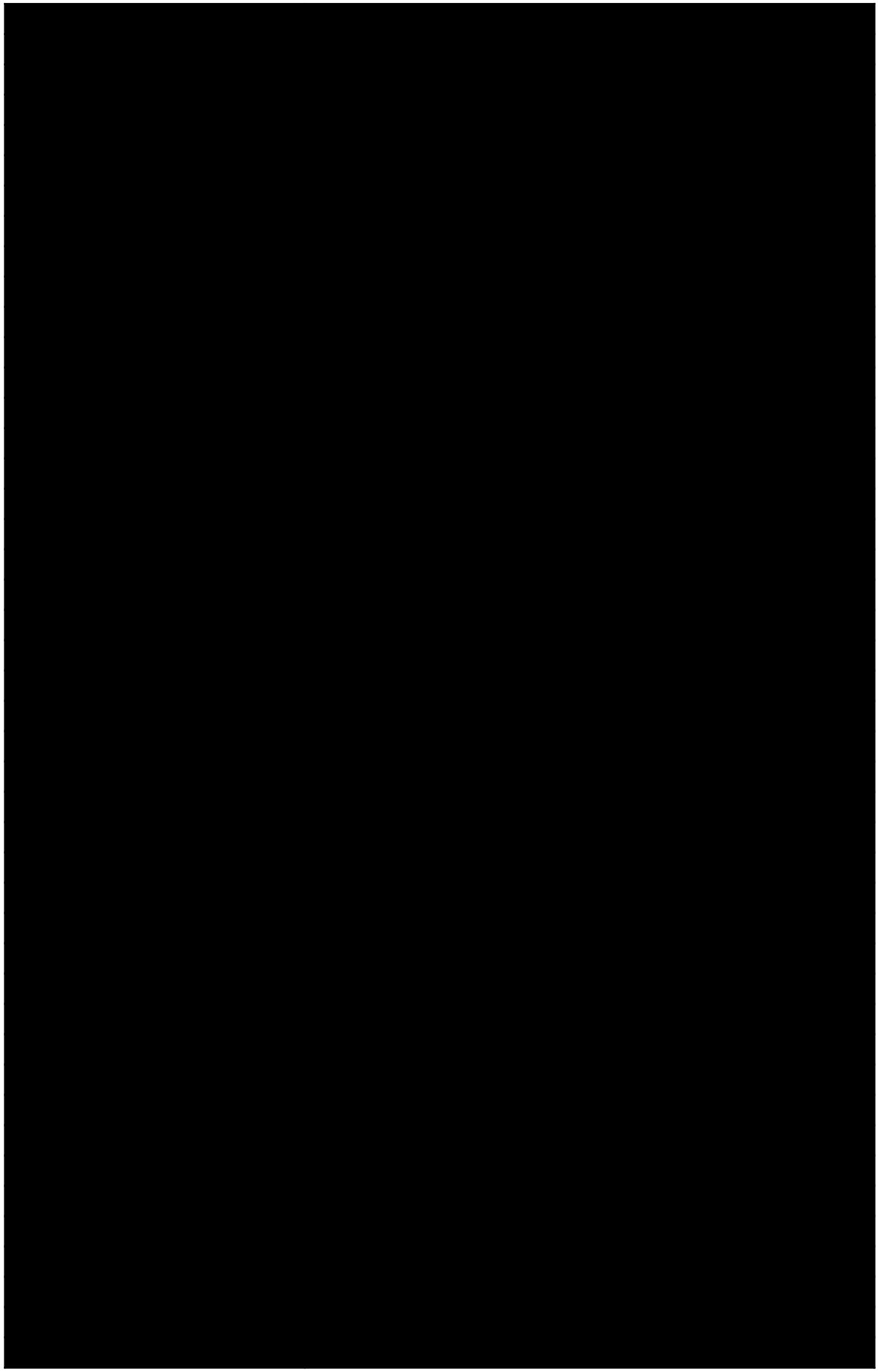


/ another facility for

e quantities that are shipped
igures (including fractions

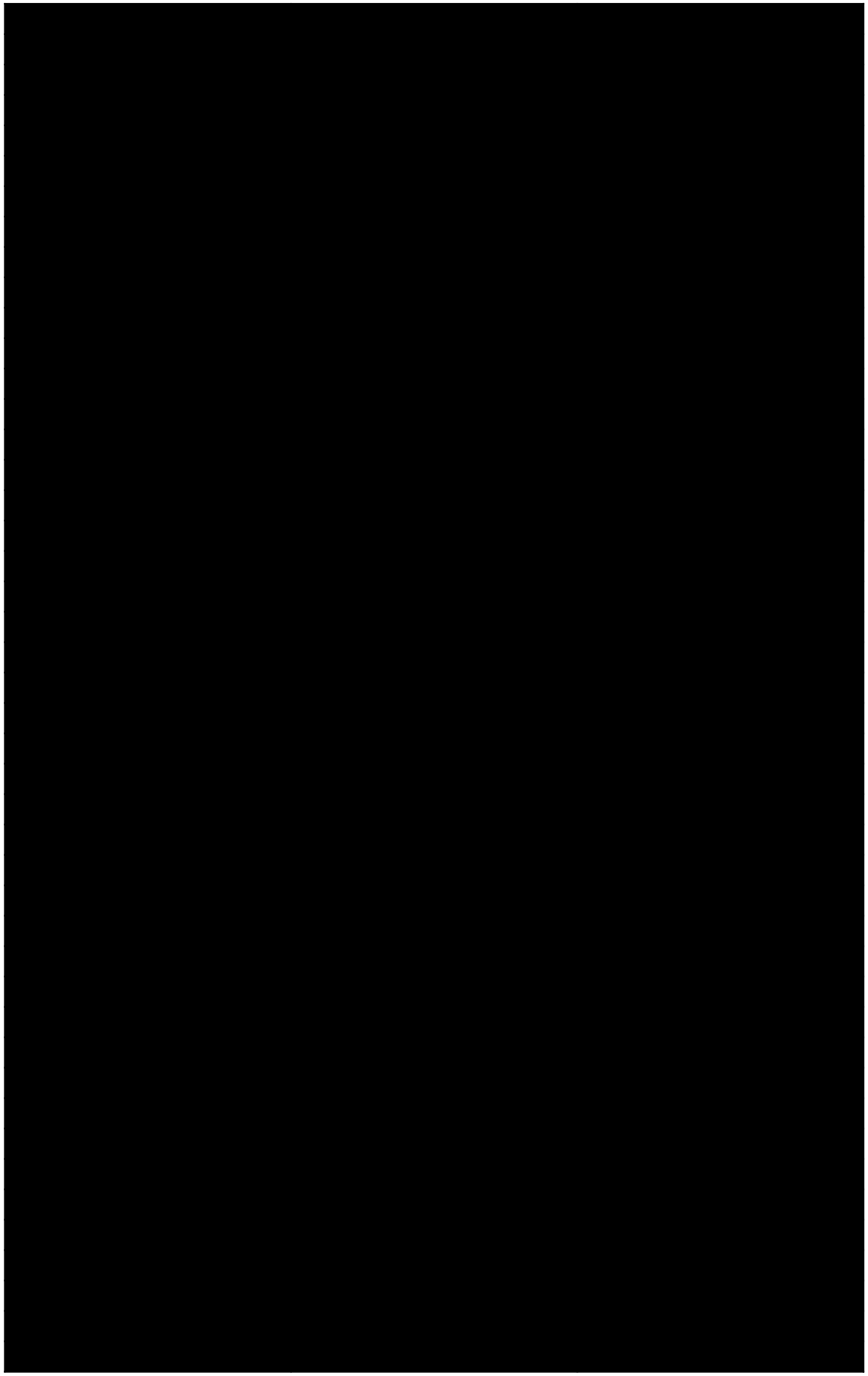
Chemical Formula:	Specify F-GHG Category for Purposes of Estimating GWP (if necessary) [98.3(c)(5)(ii)]
try Services (SRS) by name enter chemical here. If an F- by entering its name and, if	

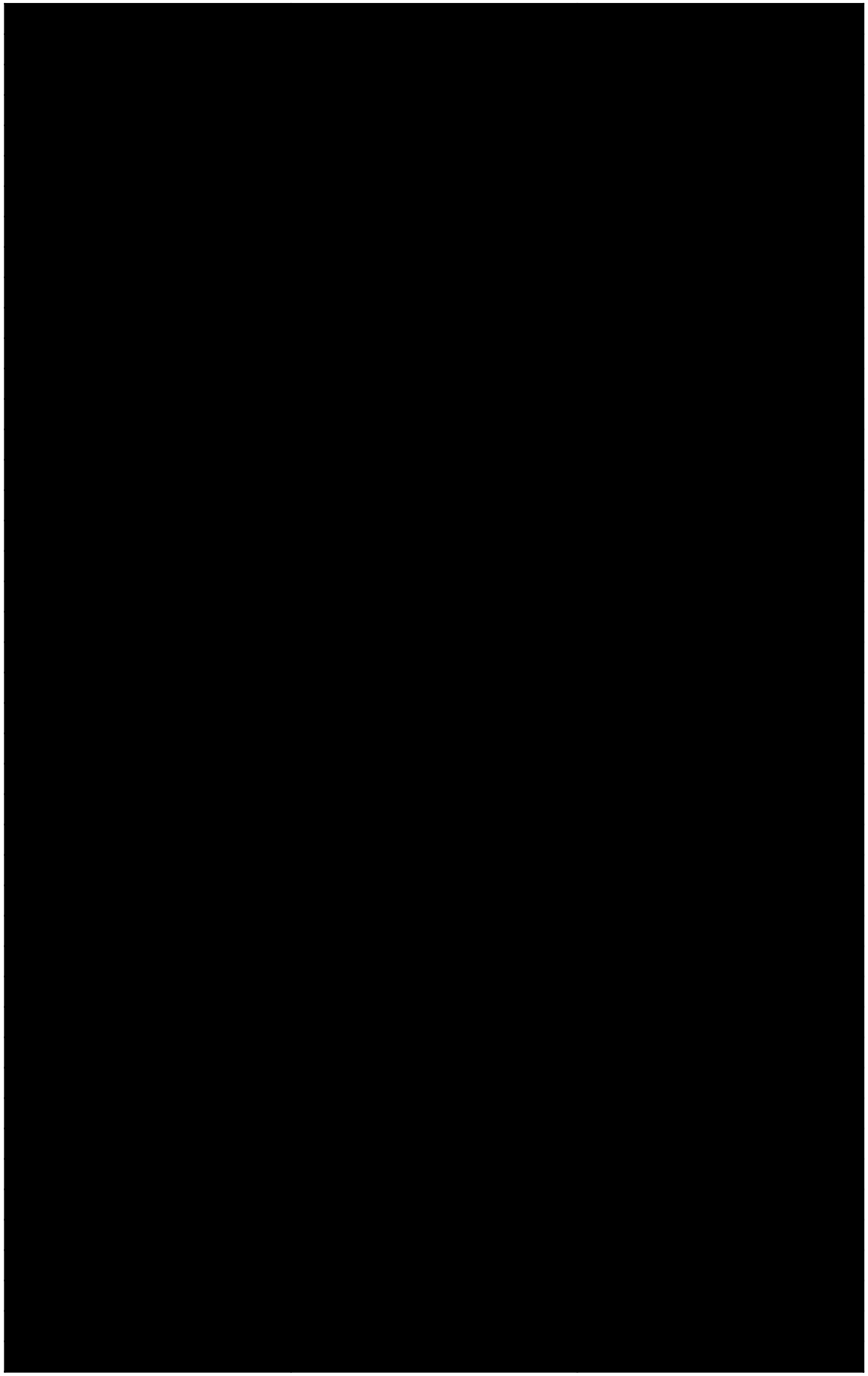




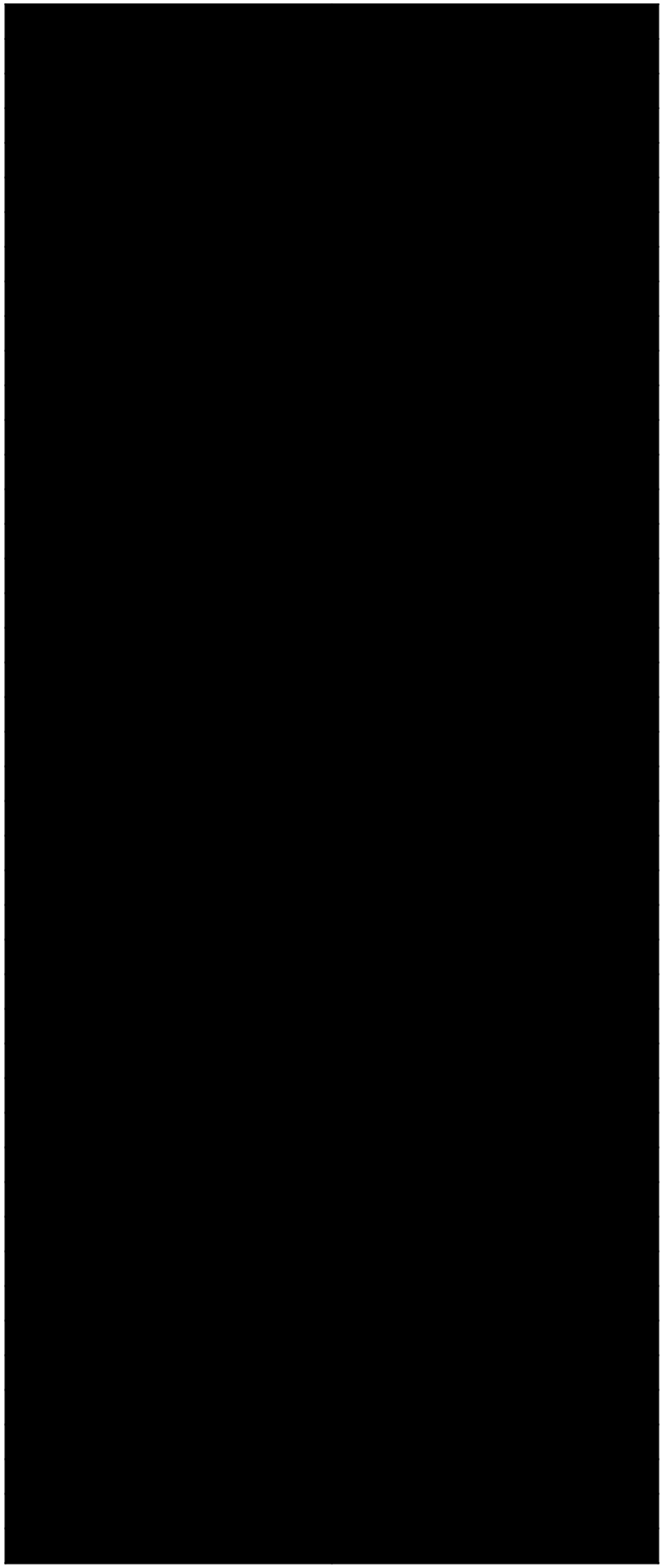
Mass of the F-GHG or F-HTF destroyed at the facility (metric tons) [98.416(a)(3)]	Mass fed into the destruction device (metric tons) [98.416(a)(11)]	Was the F-GHG or F-HTF mass determined using a missing data procedure? [98.416(a)(16)]

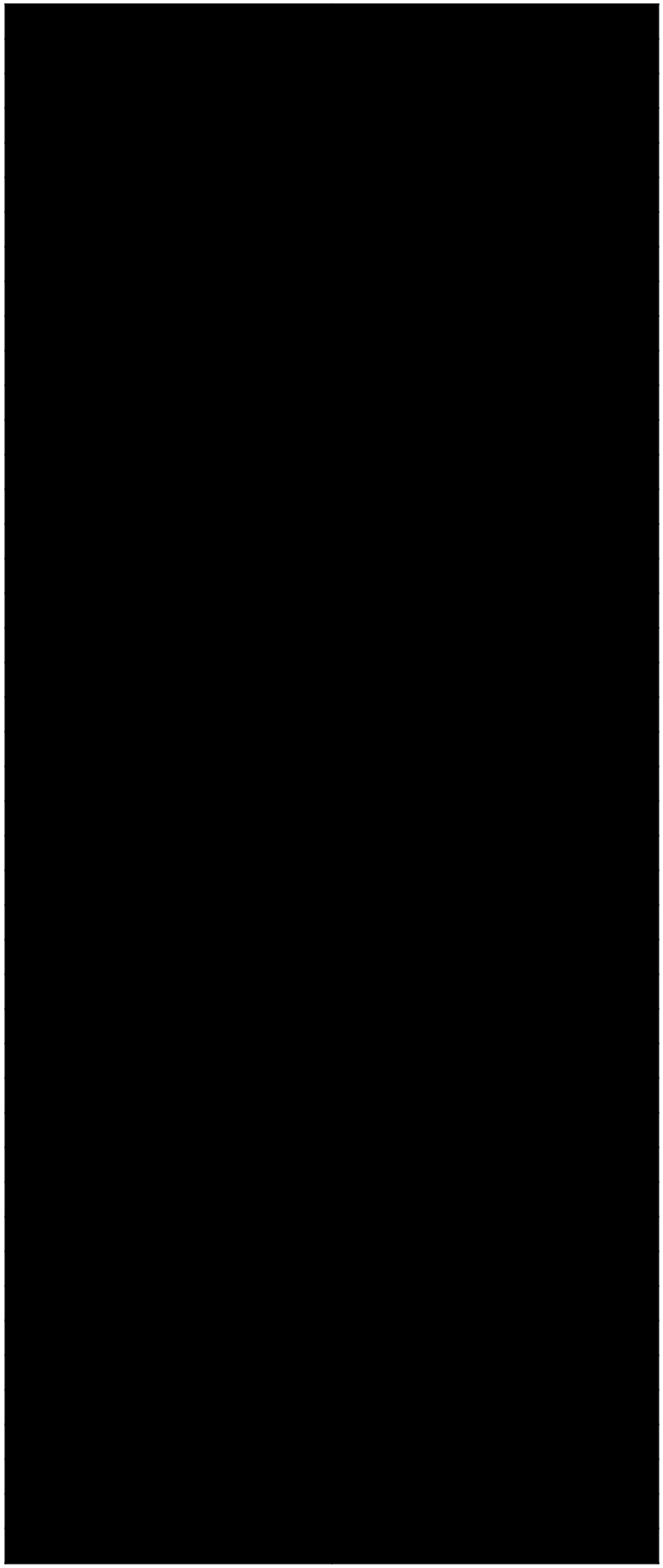
Mass determined using the missing data procedure (metric tons) [98.416(a)(16)]	Number of hours that a missing data procedure was used to measure the mass fed into the destruction device [98.416(a)(16)]	Reason a missing data procedure was used [98.416(a)(16)]





Method used to estimate the missing data [98.416(a)(16)]	Specify the "Other" measurement method used to determine mass (if applicable) [98.416(a)(16)]





Subpart OO - Only for Facilities that Send F-GHGs, F-HTFs, and

Worksheet Instructions:	
Please identify the name and address of the offsite transformation facility to which F-G F-HTF, and/or N_2O that are sent to each transformation facility in Part 4b.	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-s
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display
Workbook Navigation:	
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

Part 4a - Off-Site Transformation Facility Information

Instructions: Provide the following information for each facility to which any of tl

	Facility Name	Is the Facility US based?
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Part 4b - Off-Site Transformation Facility Shipment Information

Instructions: Provide the following information for each F-GHG, F-HTF, or N_2(
significant figures (including fractions

	Facility Name [98.416(a)(14)]	Gas Previously produced F-GHG, F-H (if not listed, select "Search Extended List" or F-HTF not listed" and ent
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l/or N_2O Offsite for Transformation

11/23/2020

HG, F-HTF, and/or N_2O is sent in Part 4a. Then identify the specific F-GHG,

suppliers-industrial-greenhouse-gases
/help/Reporting+Form+Instructions
/help/Optional+Calculation+Spreadsheet+Instructions

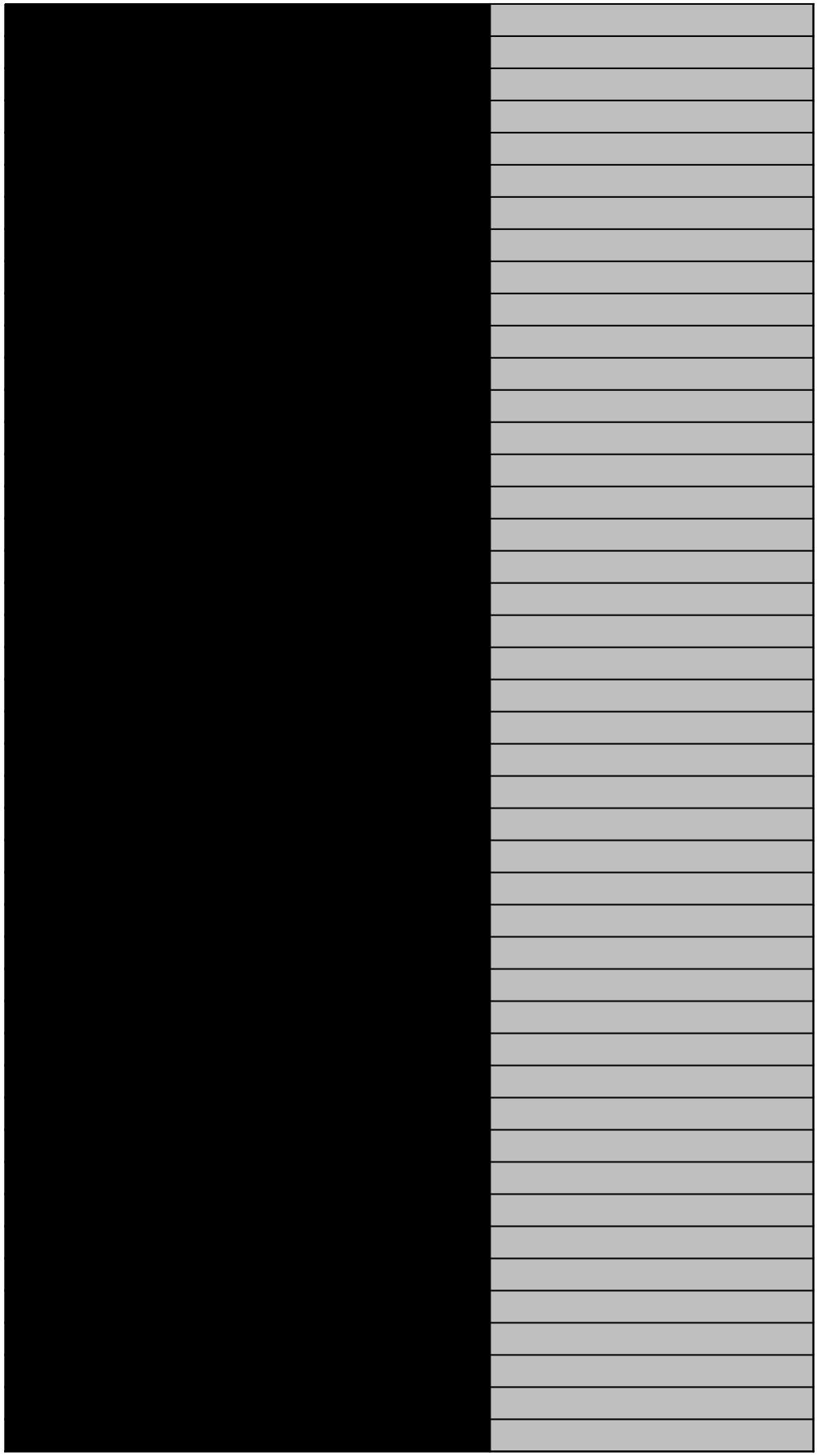
Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

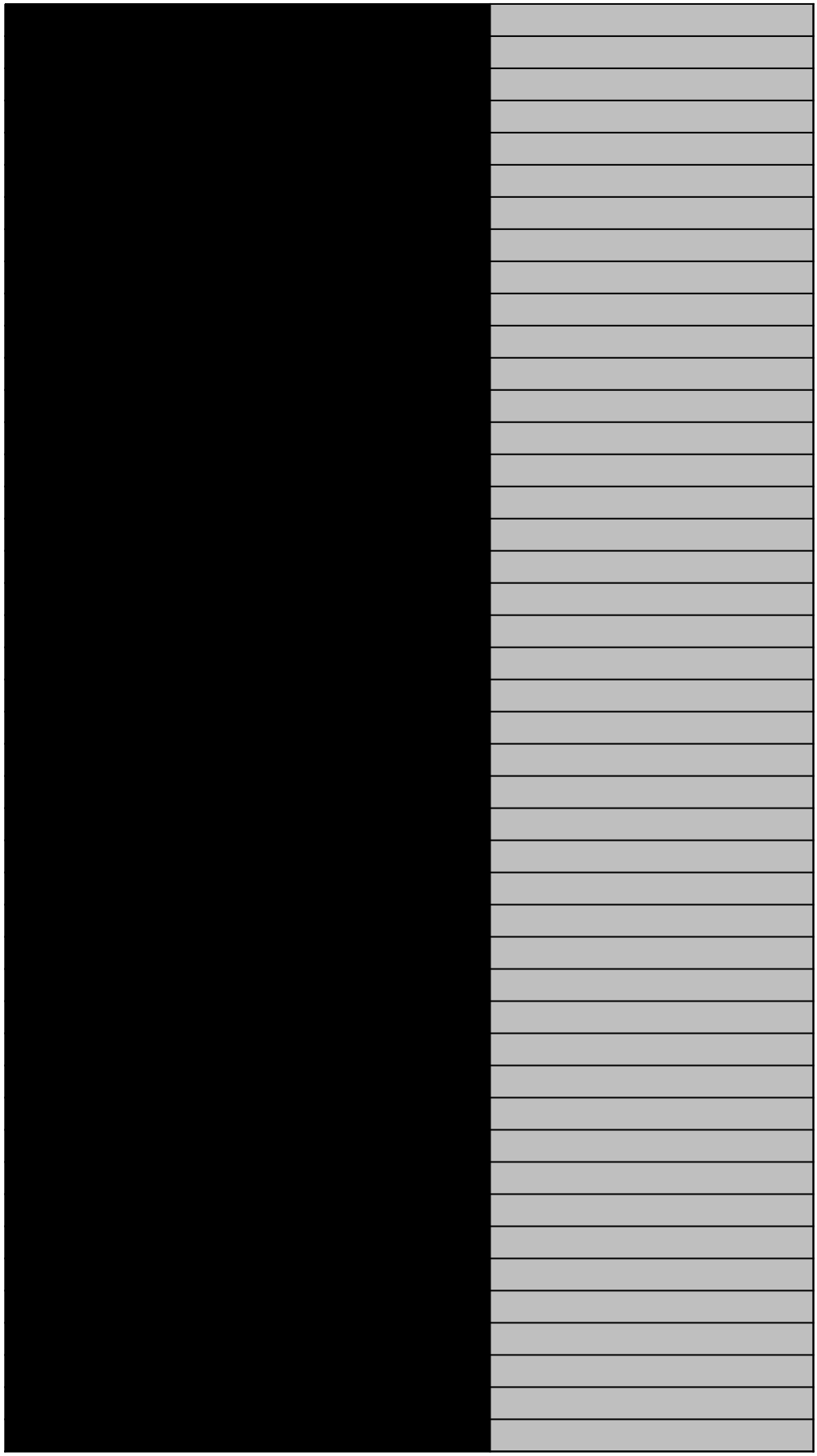
he produced F-GHG, F-HTF, or N_2O were sent for transformation per 98.4

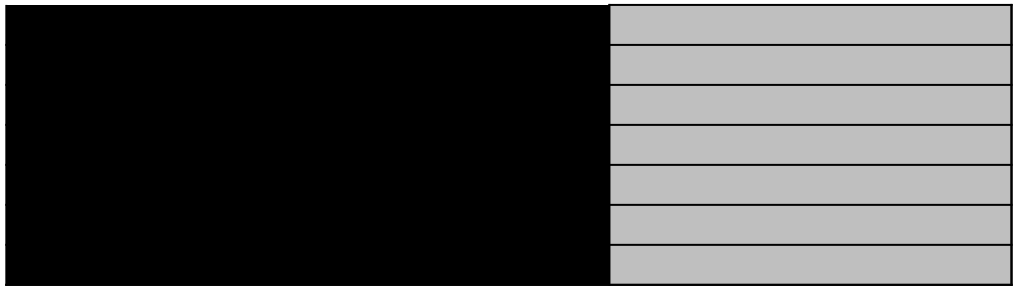
US Street Address	US City

O produced that was sent to the facility for transformation. Report all of a metric ton, if applicable).

ses	**CASRN**
TF, Or N_2O that was sent to another facility for transformation **" to activate column 'D' for a comprehensive list or select "Other F-GHG er the information required in columns 'F', 'G', 'H', and 'I')** **[98.416(a)(3)]**	



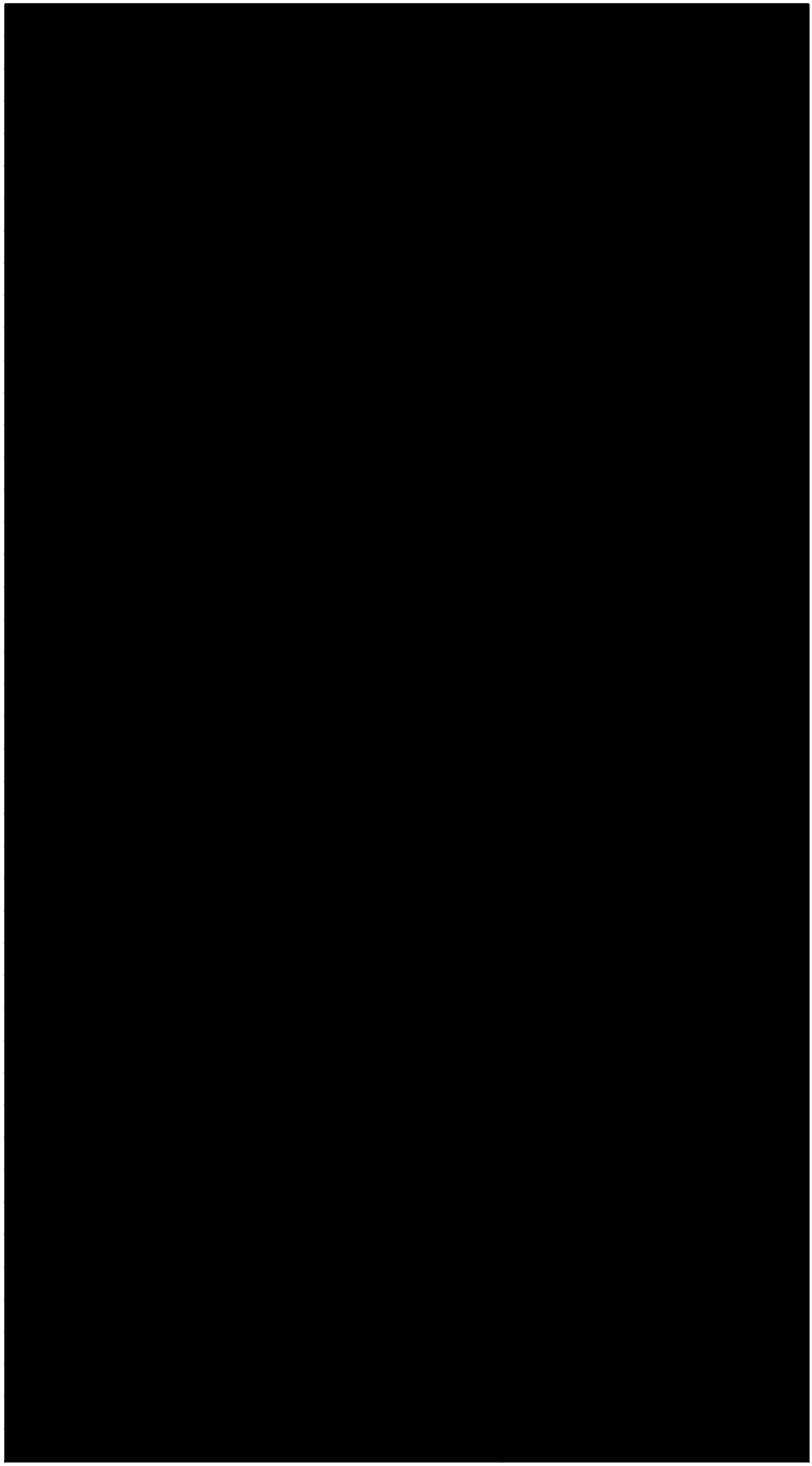


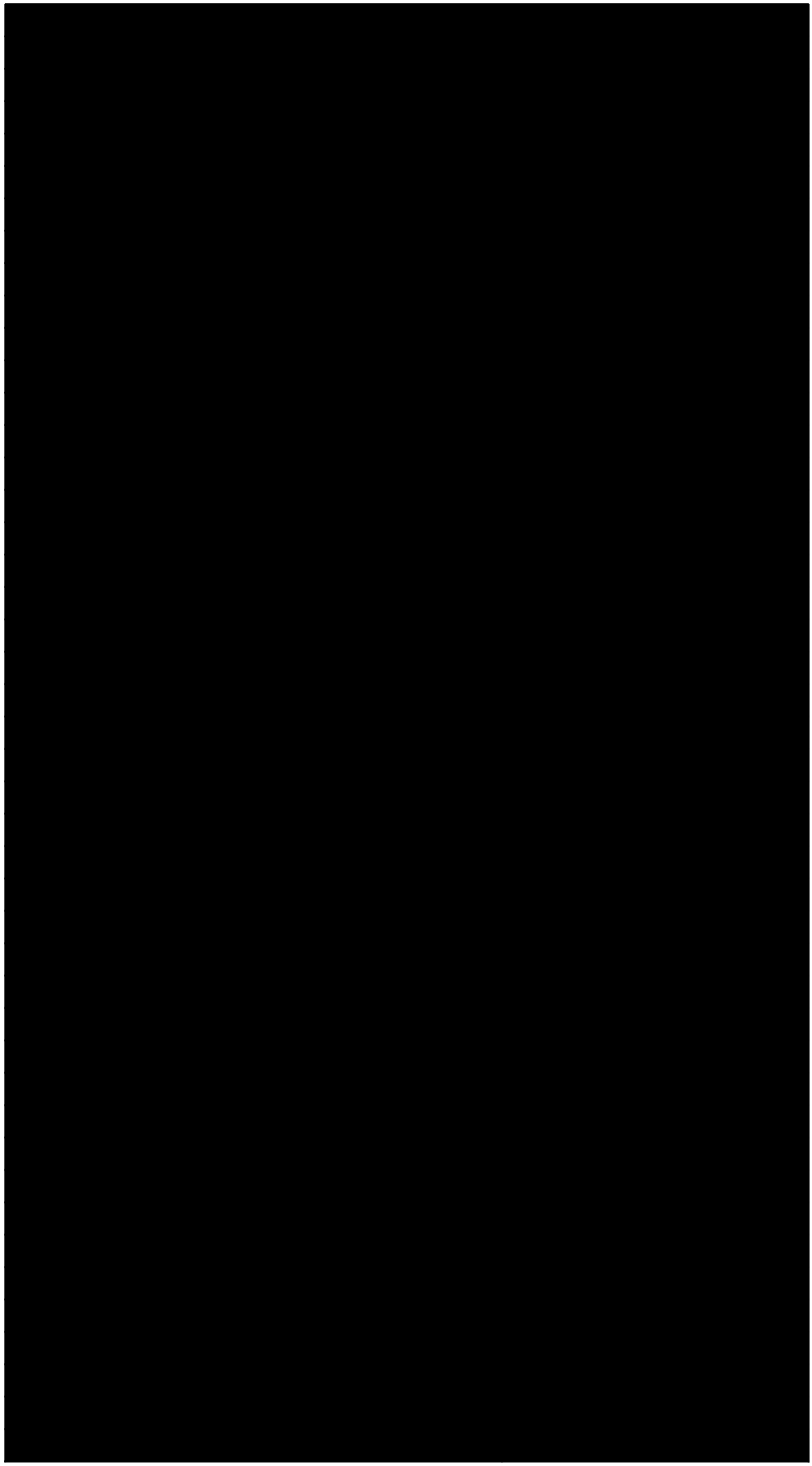


16(a)(14):

US State/Territory	US 5-Digit Zip Code

Other F-GHG:	CASRN:
If an F-GHG or chemical is not listed, search EPA's Substance Registry Chemical Abstracts Service registry number (CASRN) and enter chemi cannot be found via SRS search, add the F-GHG by entering its na [98.416(a)(1)]	

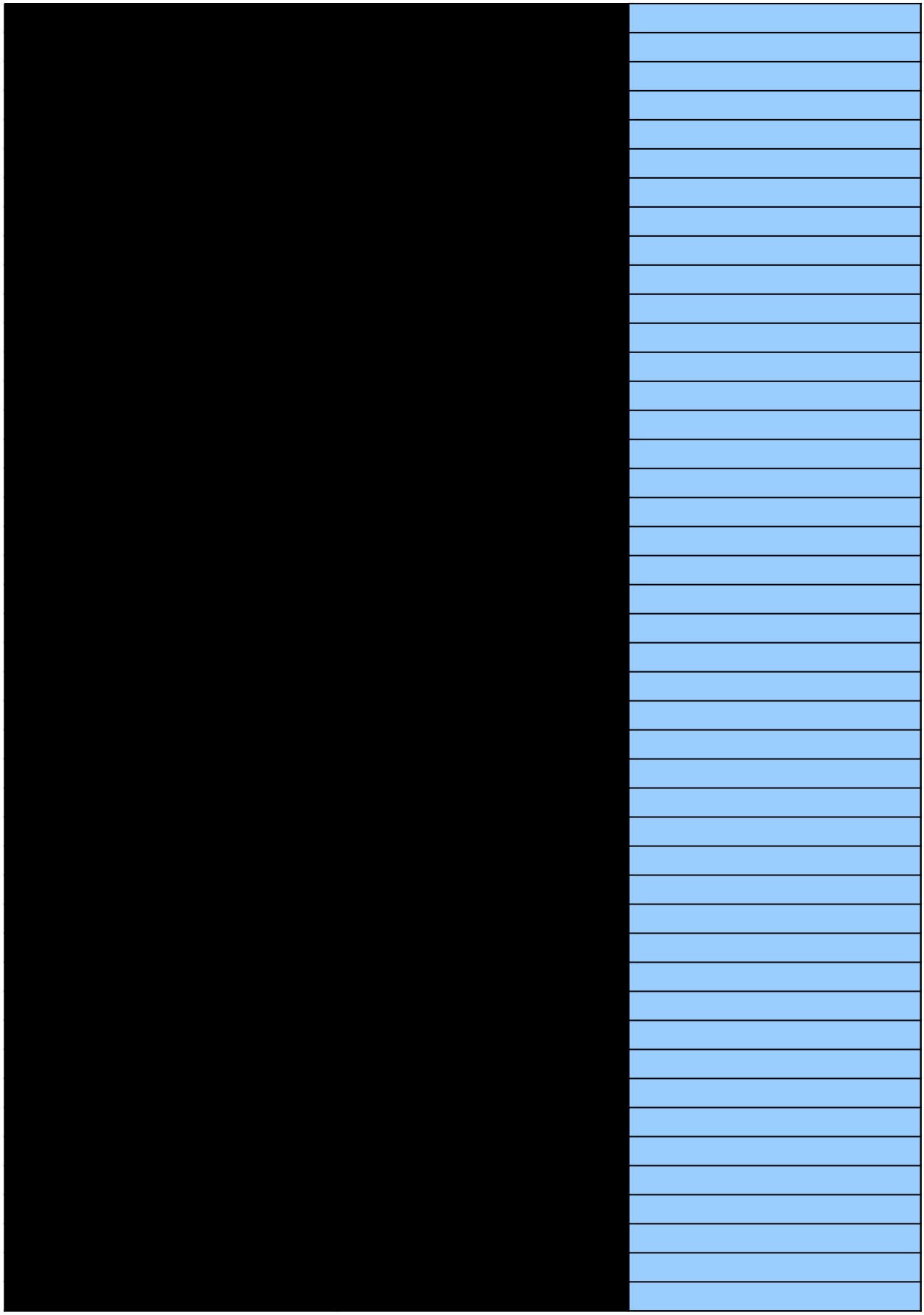


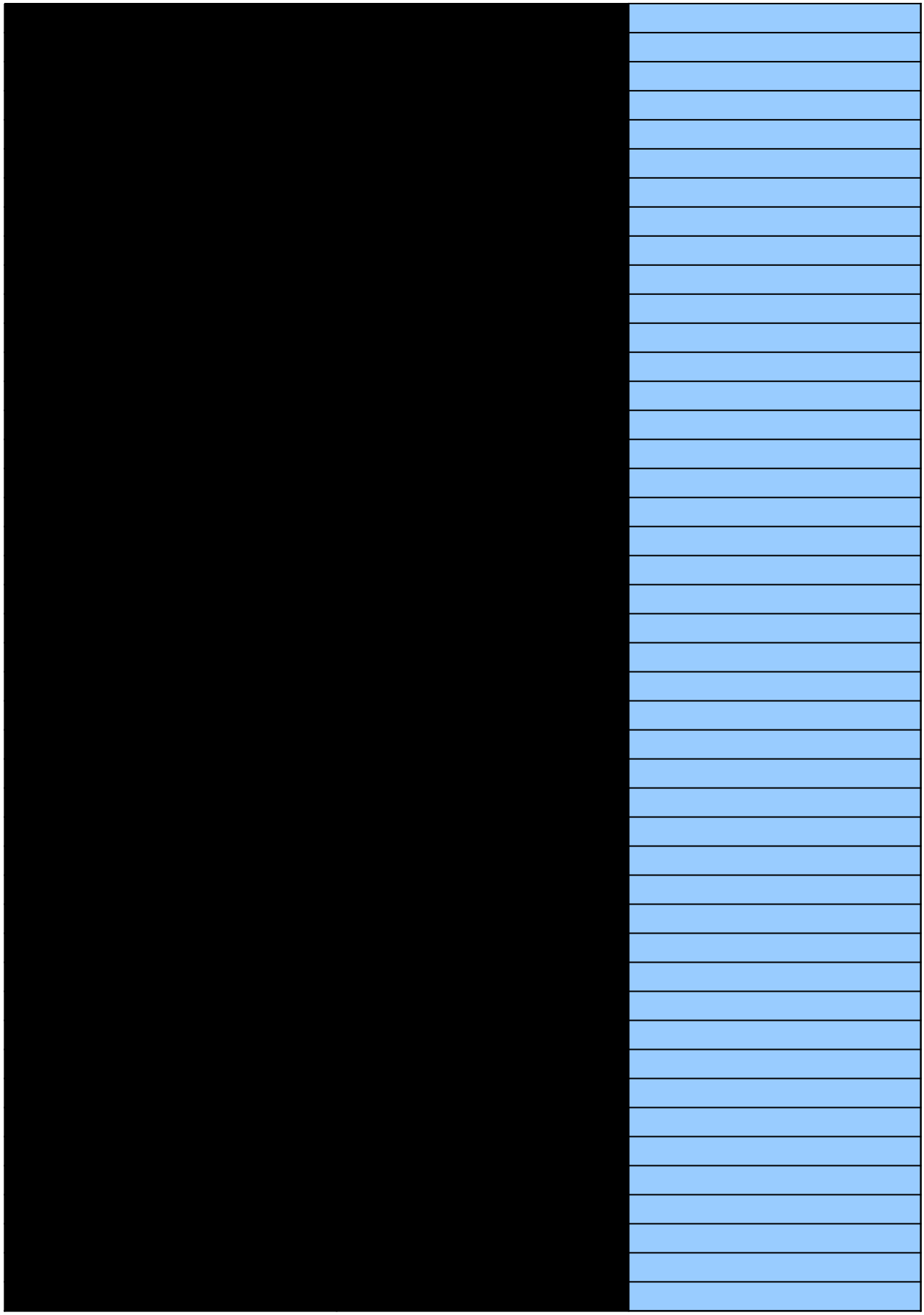


Country	non-US Street Address	non-US City

	[redacted]

Chemical Formula:		
y Services (SRS) by name and/or cal here. If an F-GHG constituent me and, if available, CASRN	Specify F-GHG Category for Purposes of Estimating GWP (if necessary) [98.3(c)(5)(ii)]	Mass of the F-GHG, F-HTF, or N_2O sent to another facility for transformation (metric tons) [98.416(a)(5), 98.416(a)(14)]
[redacted]		

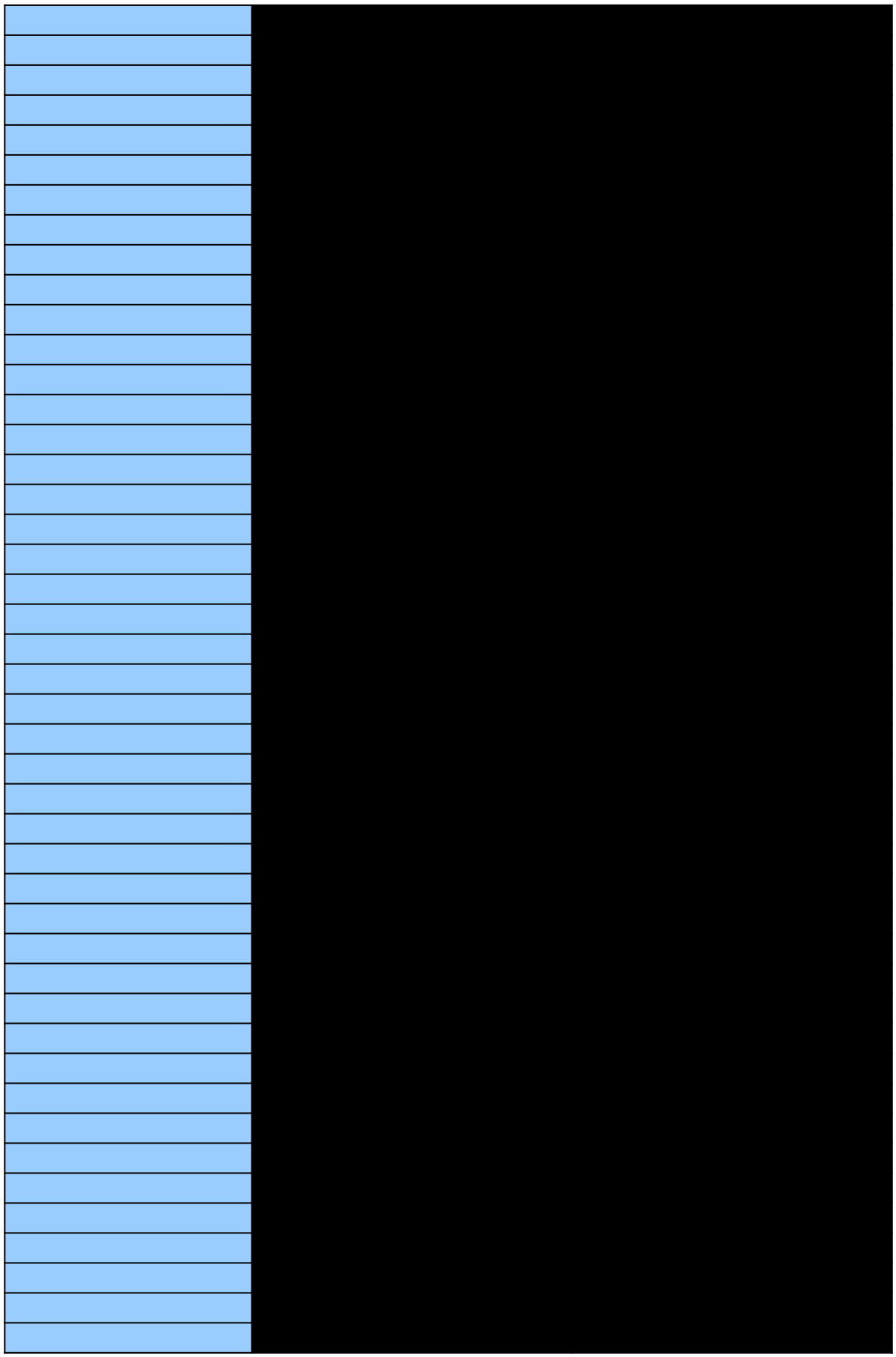


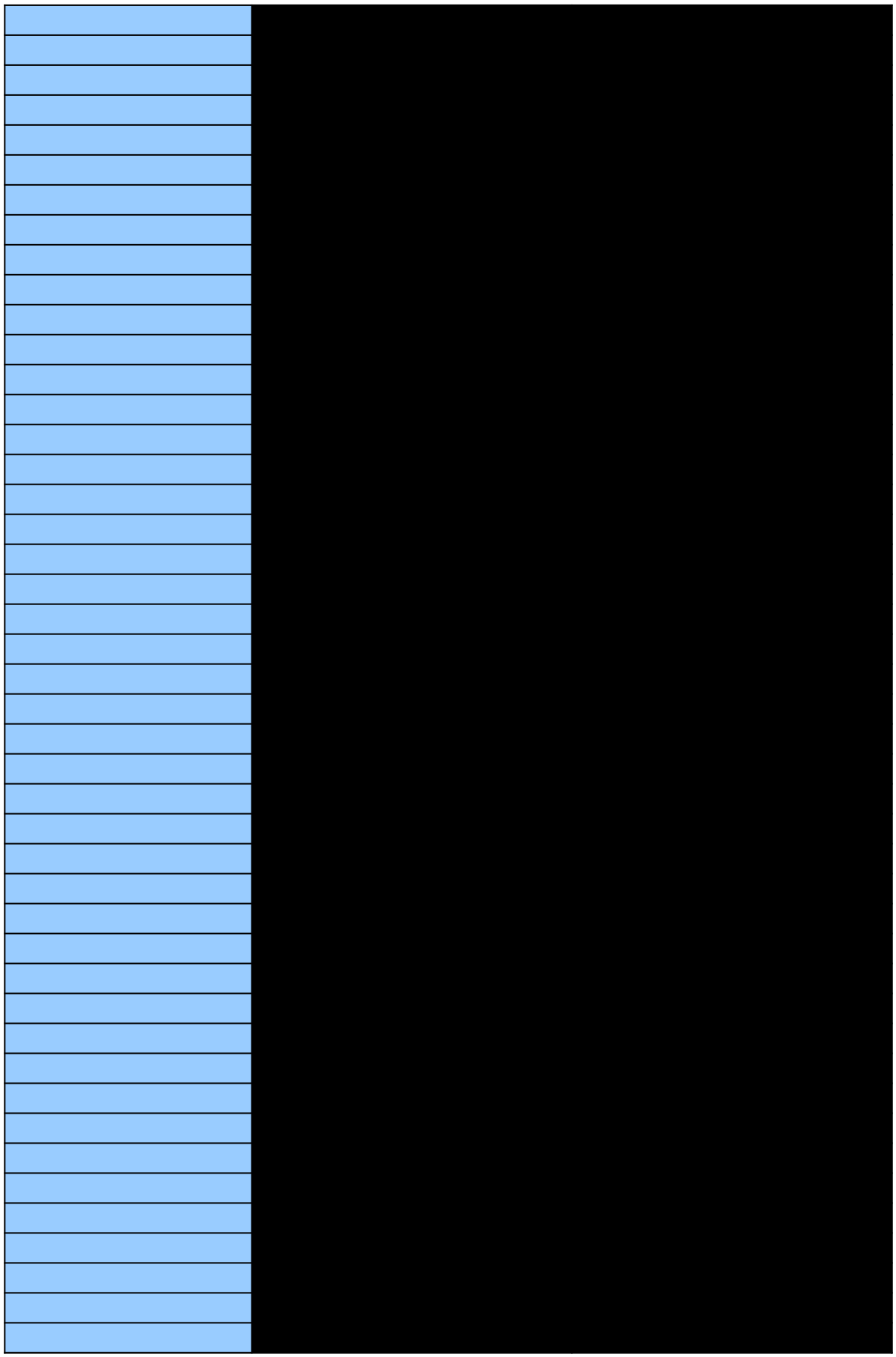


non-US Province	non-US Postal Cod	non-US Country
[redacted]		

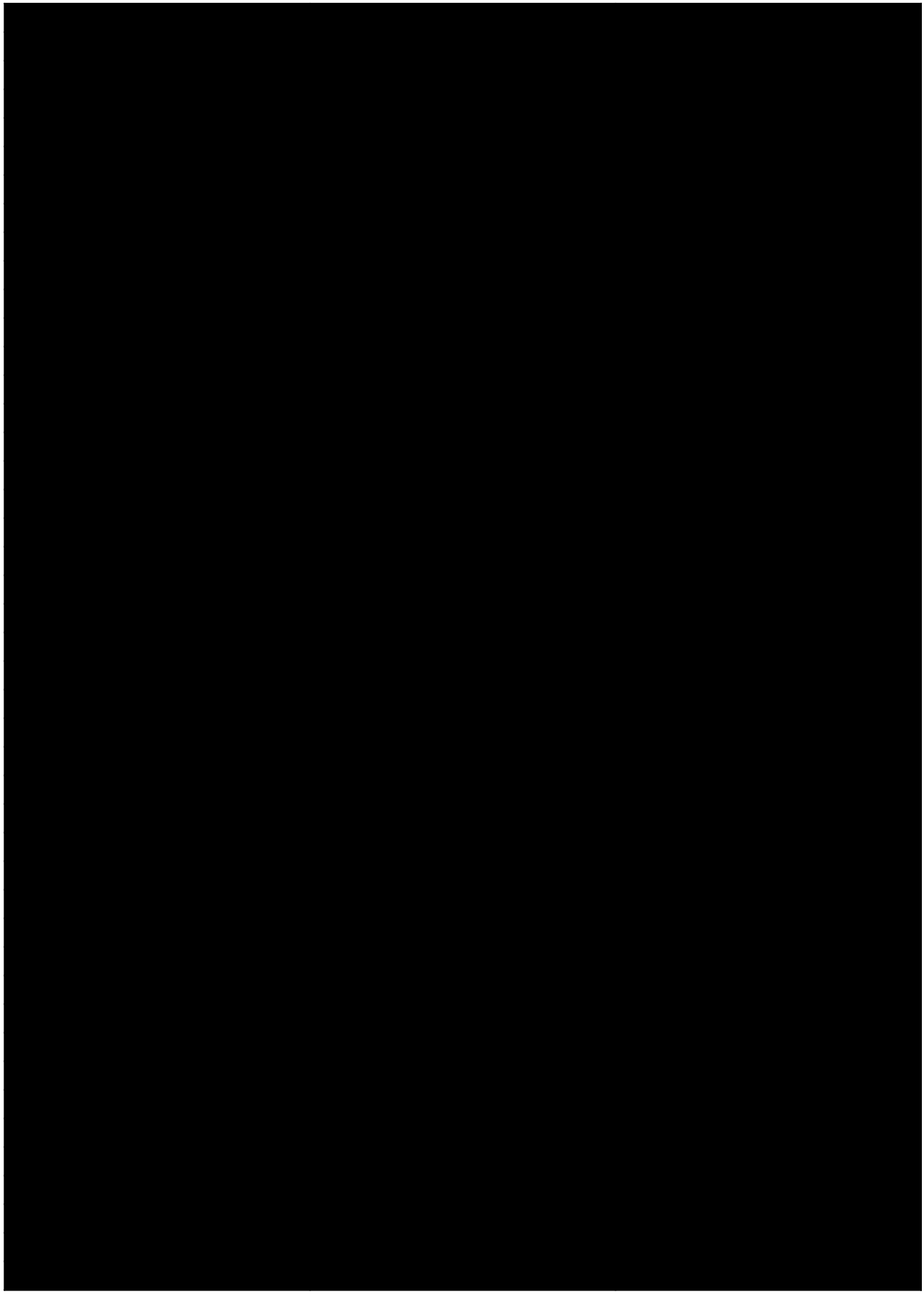
[redacted]

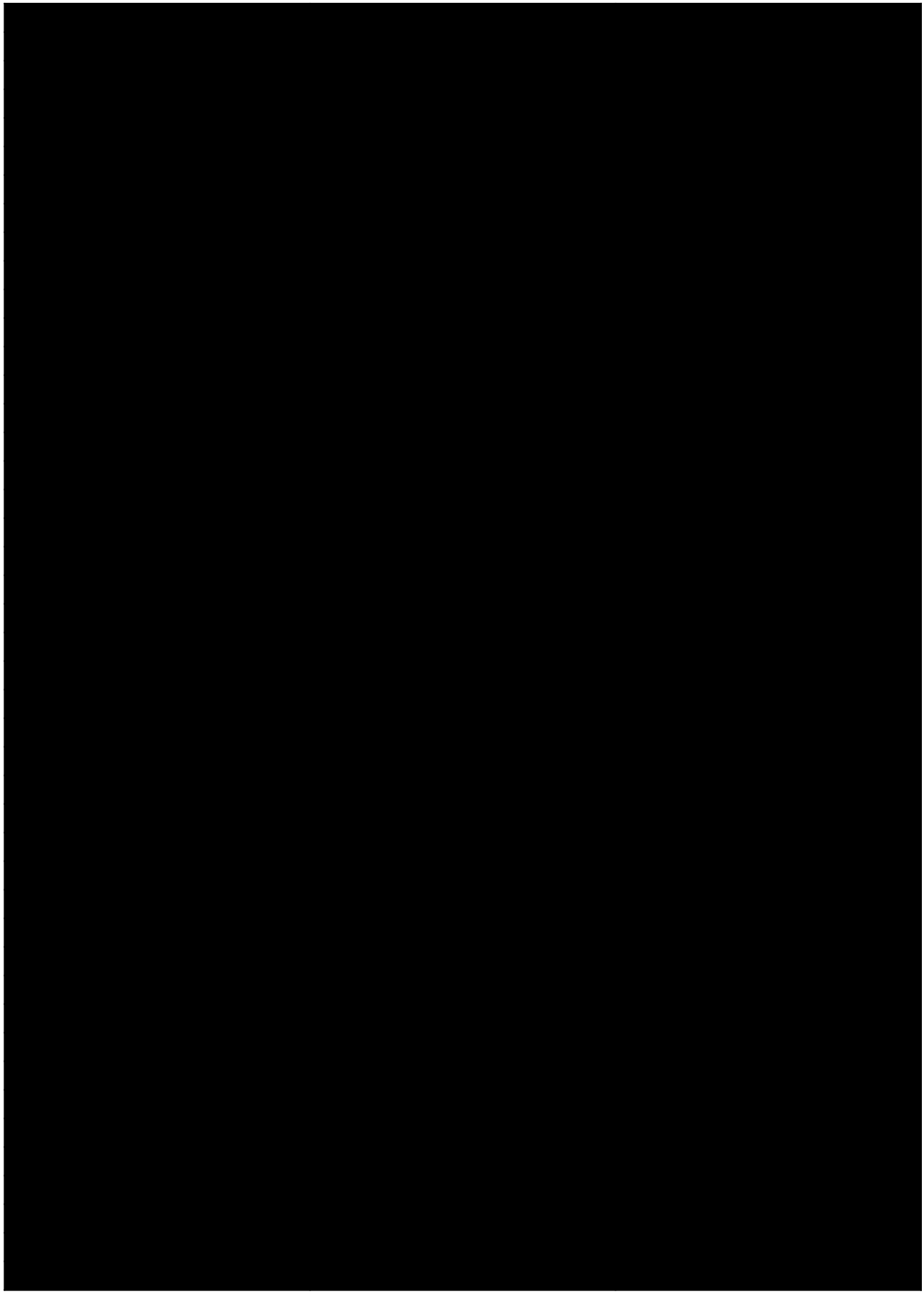
Was the mass determined using a missing data procedure? [98.416(a)(16)]	Mass determined using the missing data procedure (metric tons) [98.416(a)(16)]	Number of hours that a missing data procedure was used to measure the mass fed into the transformation device [98.416(a)(16)]
	[redacted]	





Reason a missing data procedure was used [98.416(a)(16)]	Method used to estimate the missing data [98.416(a)(16)]	Specify the "Other" measurement method used to determine mass (if applicable) [98.416(a)(16)]





Subpart OO - Only for Facilities that Send F-GHGs and/or F-HT

Worksheet Instructions:	
Please identify the name and address of the offsite destruction facility to which F-GH(Part 5b.	
Version:	
R.08	
External Links:	
Subpart OO Resources Page:	http://www2.epa.gov/ghgreporting/subpart-oo-s
Reporting Form Help Content:	http://www.ccdsupport.com/confluence/display
Optional Calculation Spreadsheet:	http://www.ccdsupport.com/confluence/display
Part 1- Facility Information	
Part 2 - Production & Transformation Process Information	
Part 2a - Production Process Information	
Part 2b - Transformation Process Information	

Part 5a - Off-Site Destruction Facility Information

Instructions: Provide the following information for each facility to which any F-(

	Facility Name	Is the Facility US based?
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Part 5b - Off-Site Destruction Facility Shipment Information

Instructions: Provide the following information for each F-GHG or F-HTF produ figures (including fractions of a metric ton, if applicable).

	Facility Name [98.416(a)(15)]	Gas Previously produced F-GH (if not listed, select "Search Extended List' F-HTF not listed" and ent
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'Fs Offsite for Destruction

G and/or F-HTF is sent in Part 5a. Then identify the specific F-GHG and/or F-HT

suppliers-industrial-greenhouse-gases
/help/Reporting+Form+Instructions
/help/Optional+Calculation+Spreadsheet+Instructions

Workbook Navigation:

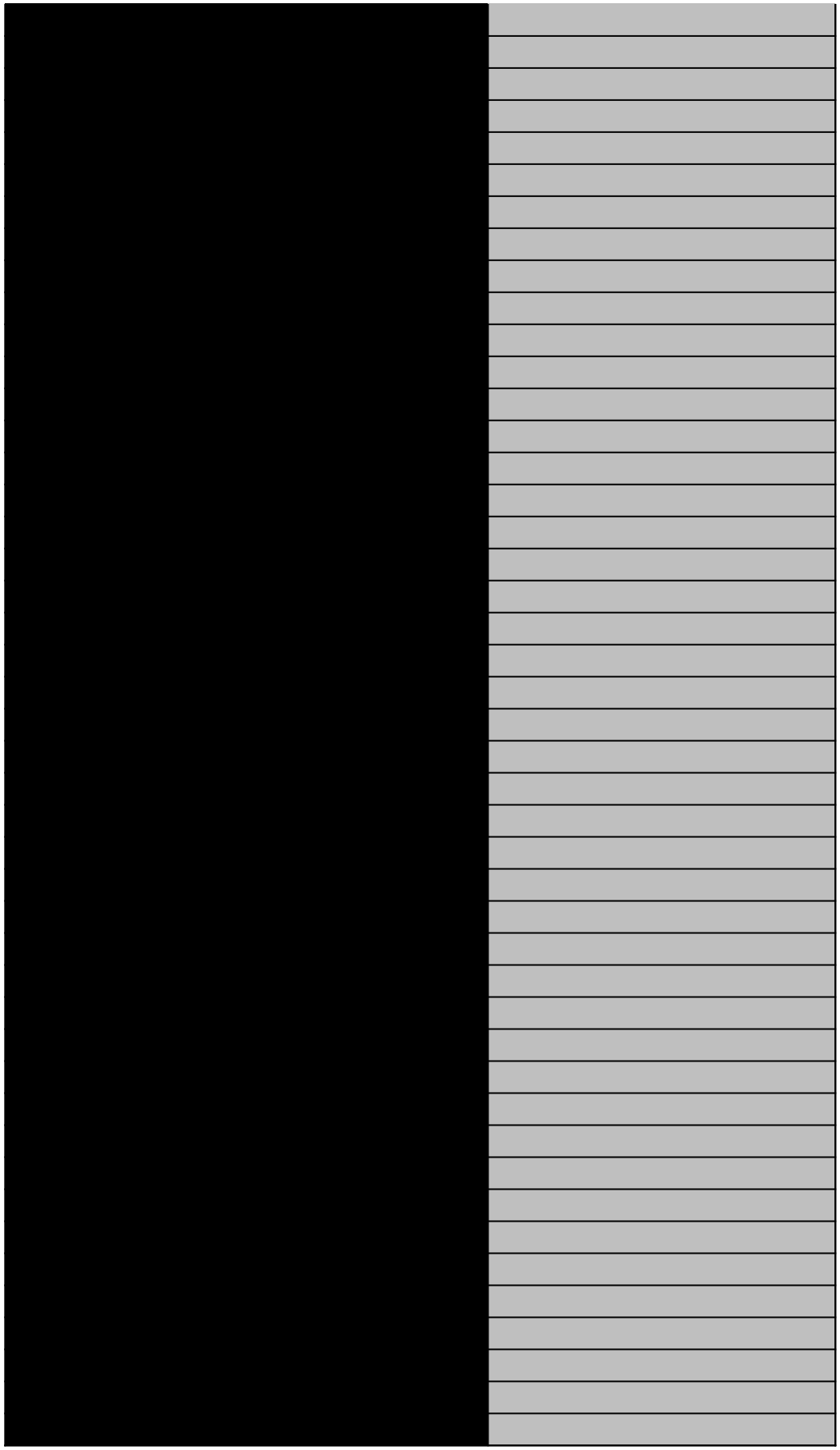
Part 3 - On-Site Destruction Information
Part 4 - Off-Site Transformation Information
Part 5 - Off-Site Destruction Information

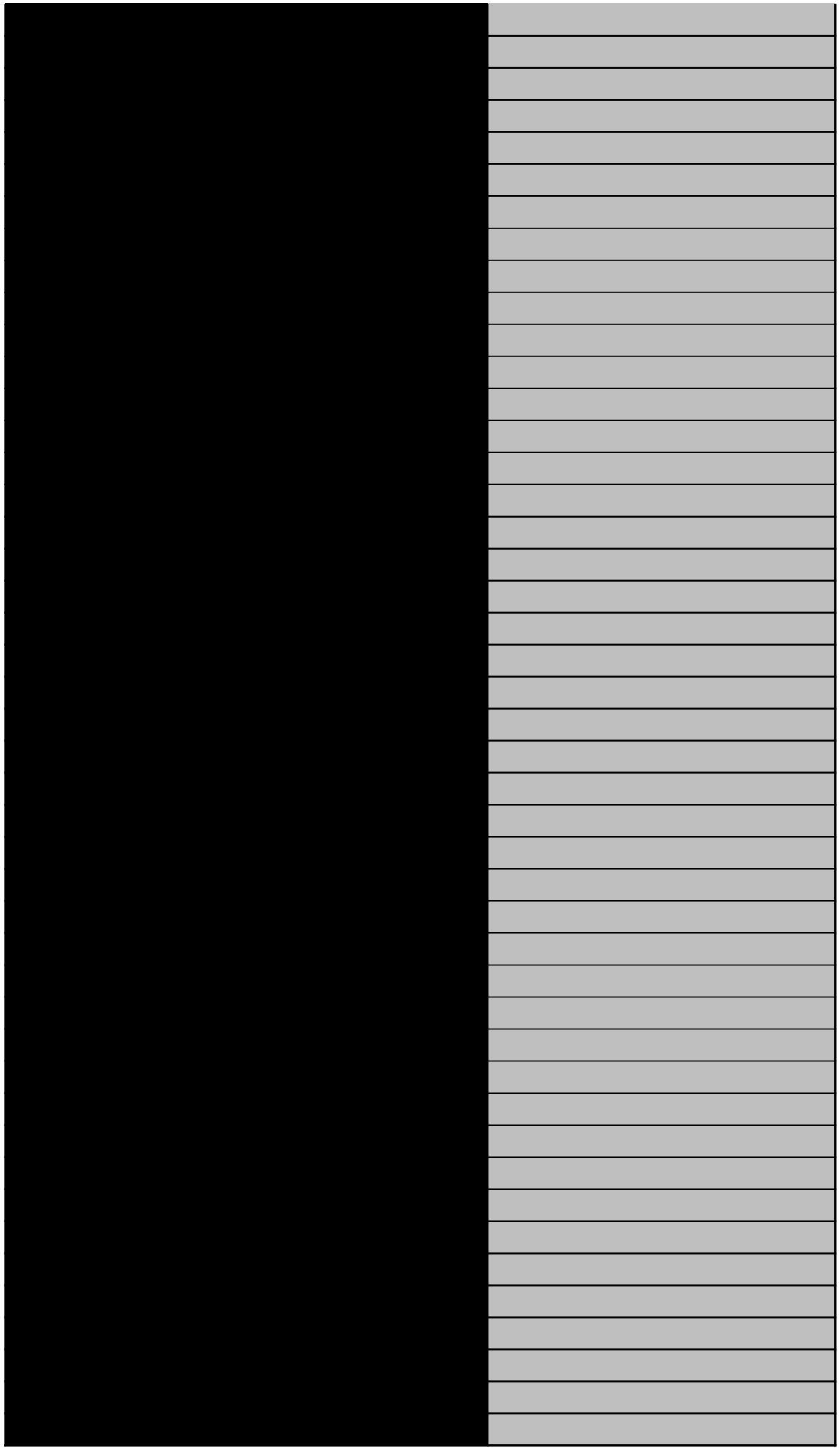
GHGs or F-HTFs were sent for destruction per 98.416(a)(15):

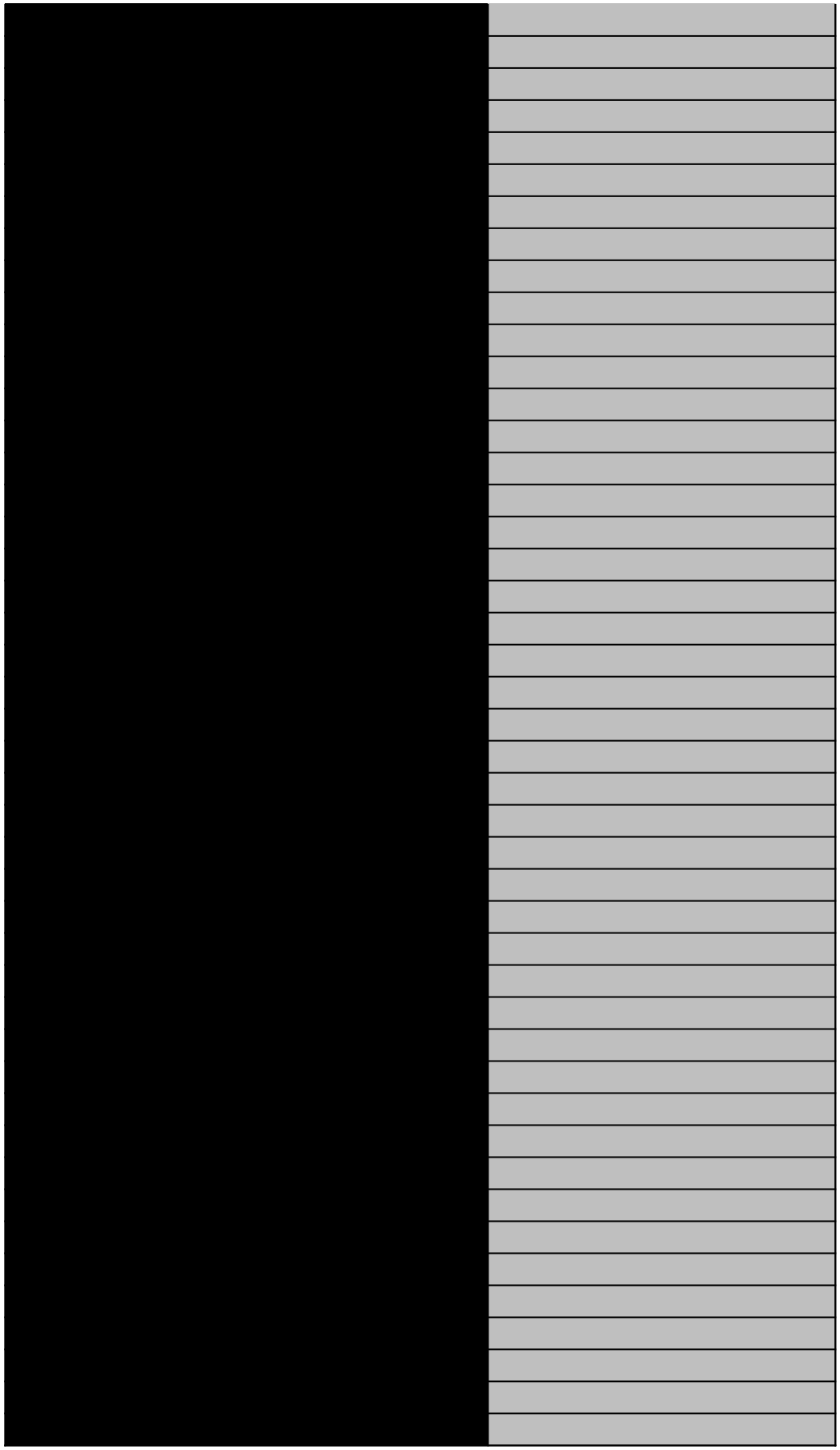
US Street Address	US City

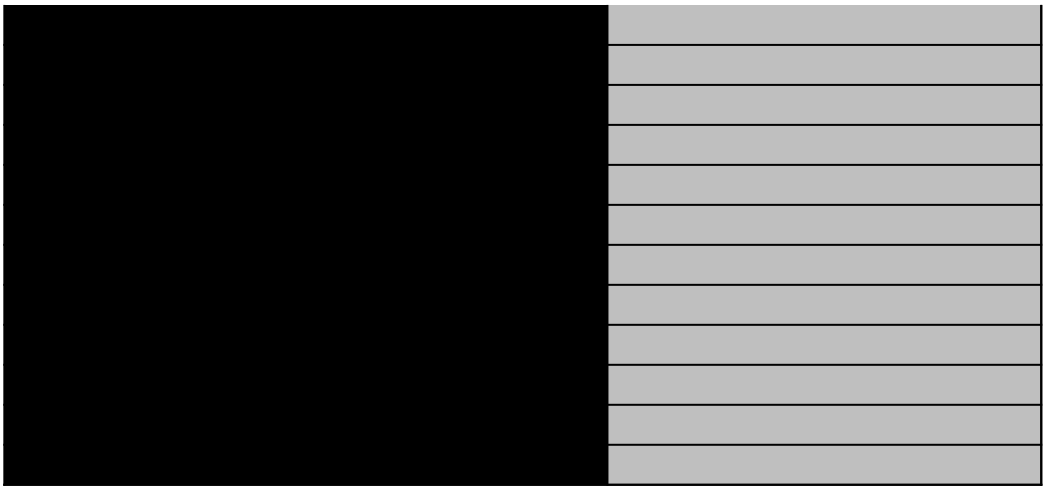
ced that was sent to the facility for destruction. Report all significant

ses	**CASRN**
G or F-HTF that was sent to another facility for destruction **' to activate column 'D' for a comprehensive list or select "Other F-GHG or er the information required in columns 'F', 'G', 'H', and 'I')** **[98.416(a)(3)]**	
[redacted]	







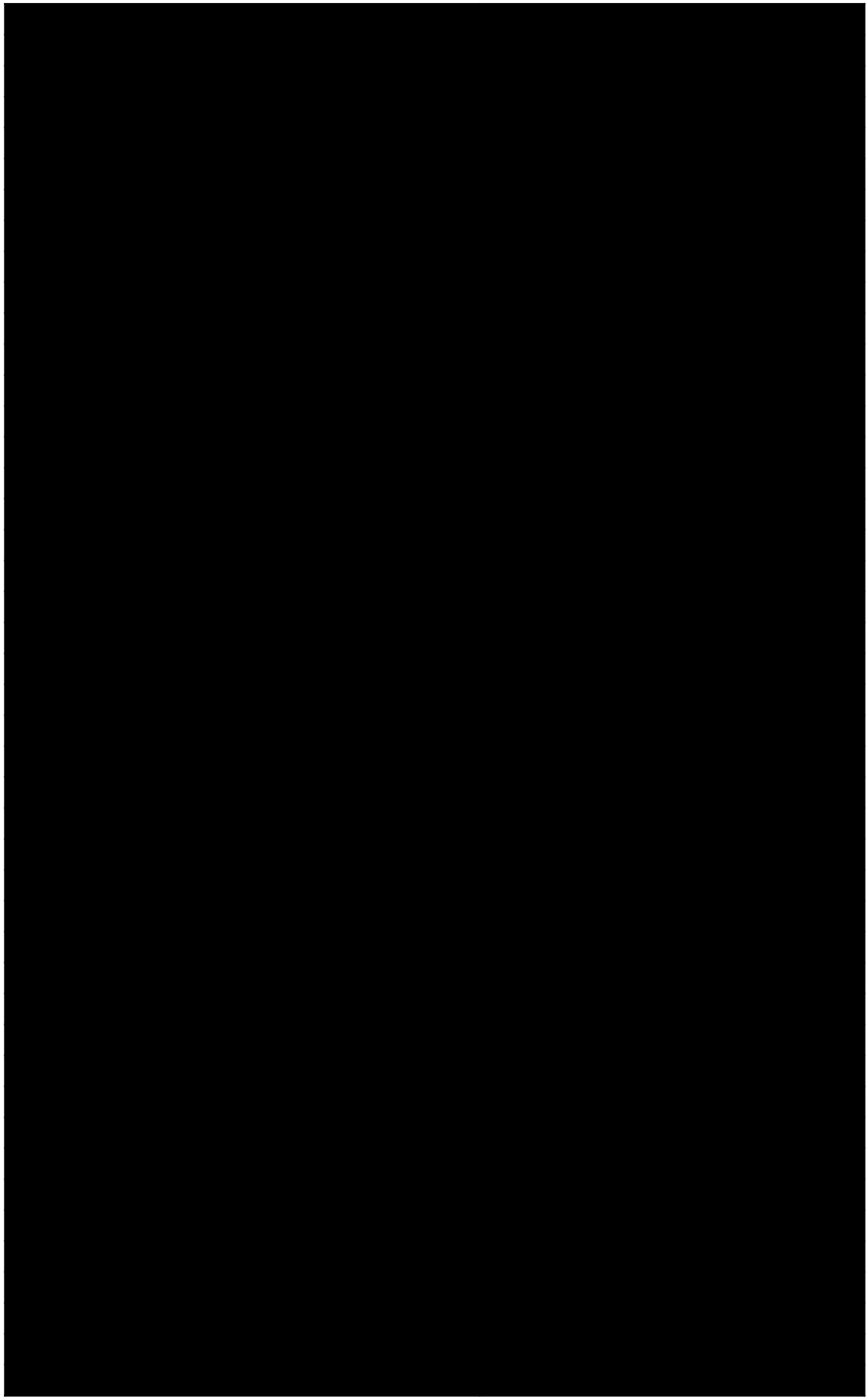


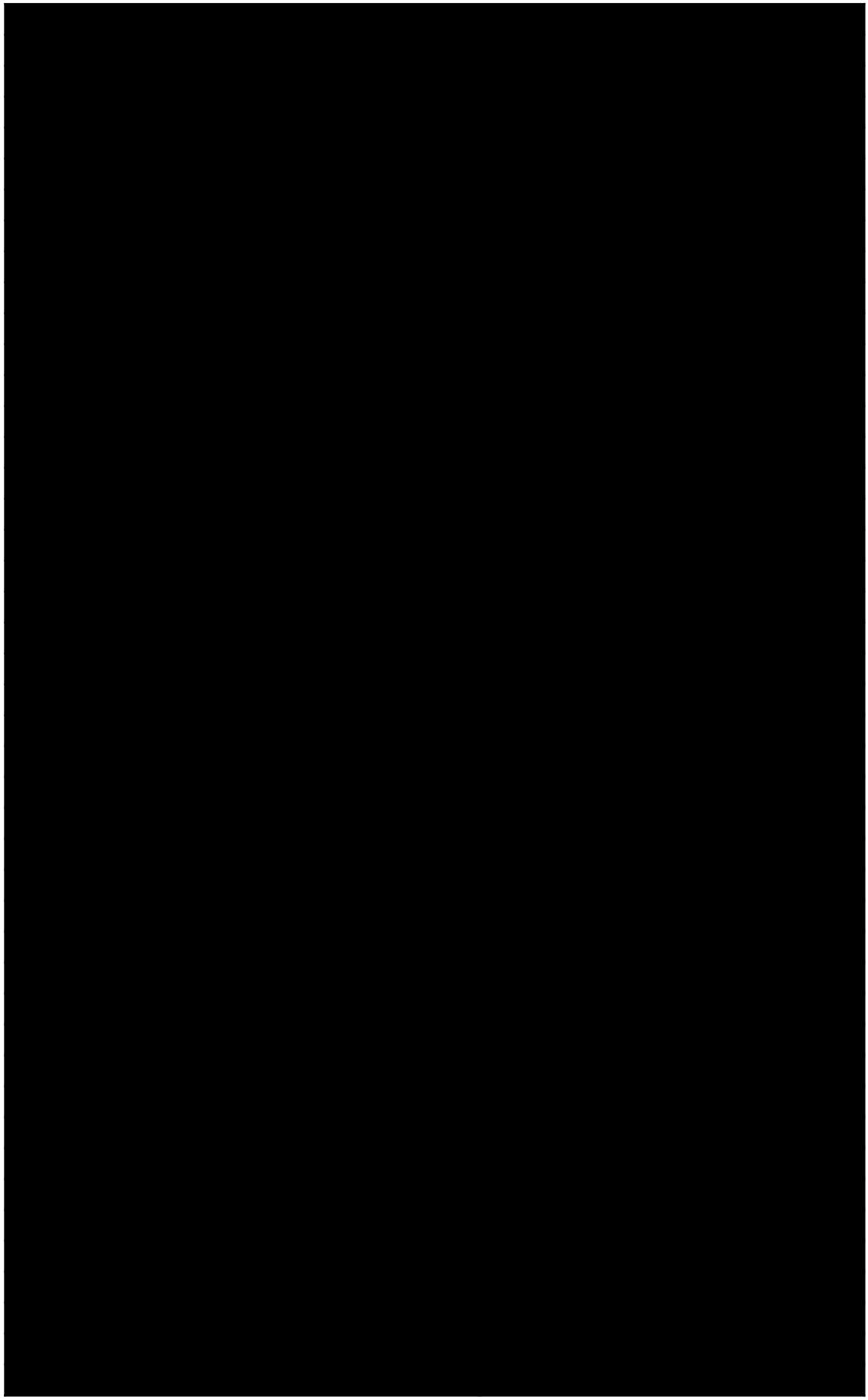
11/23/2020

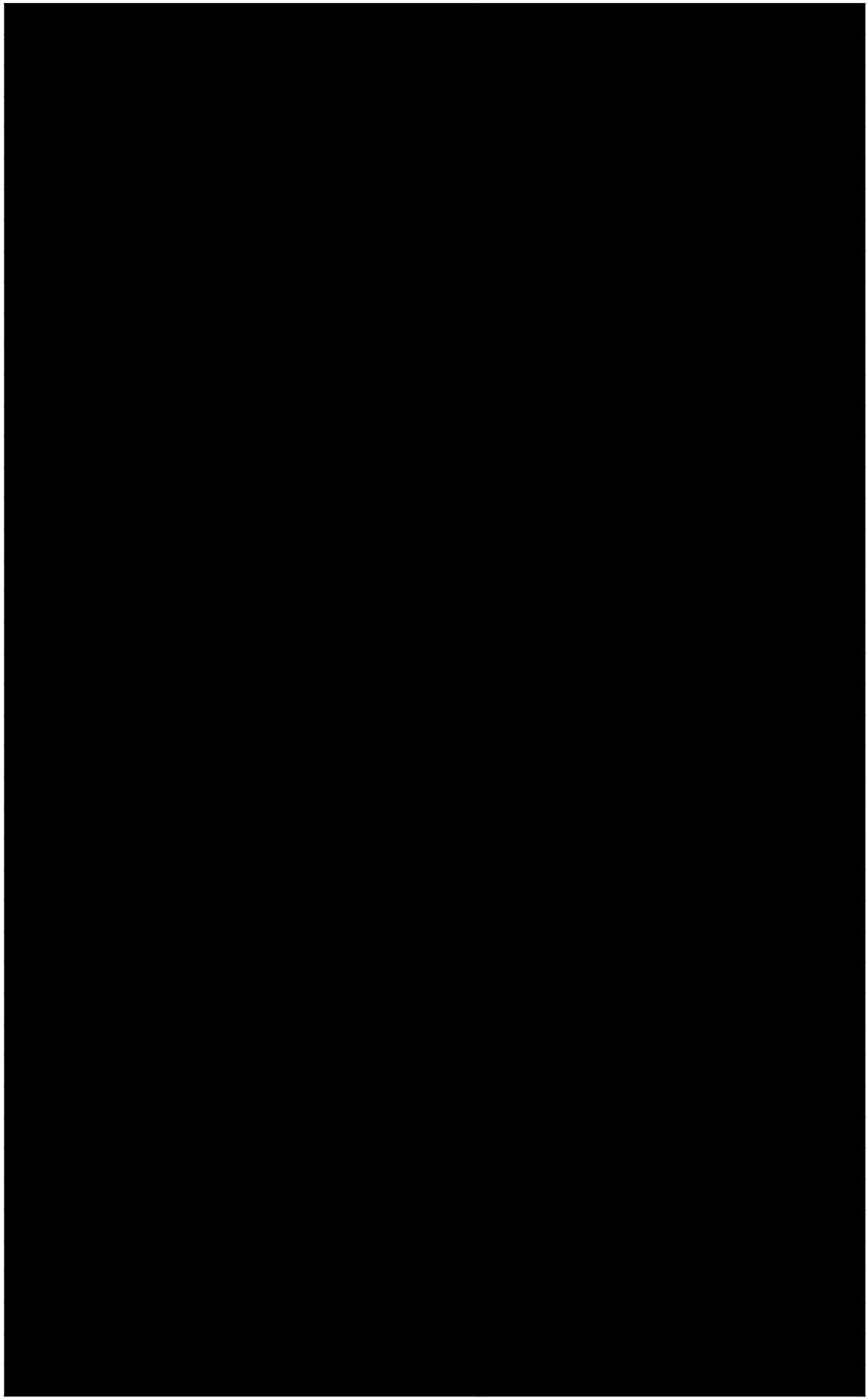
F that are sent to each destruction facility in

US State/Territory	US 5-Digit Zip Code

Other F-GHG:	CASRN:
If an F-GHG or chemical is not listed, search EPA's Substance Registry Servi Abstracts Service registry number (CASRN) and enter chemical here. If an F-G SRS search, add the F-GHG by entering its name and, if av [98.416(a)(1)]	

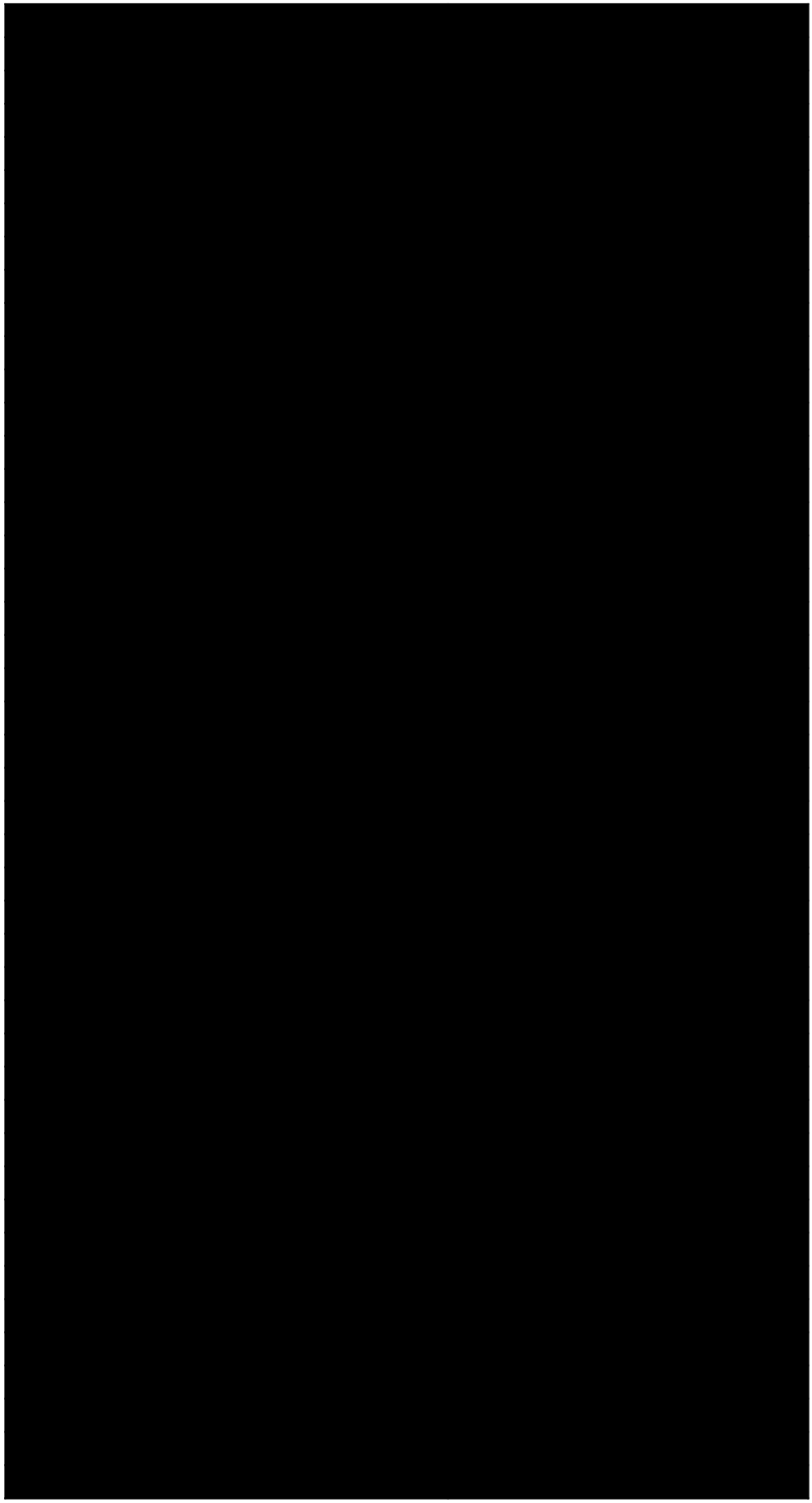


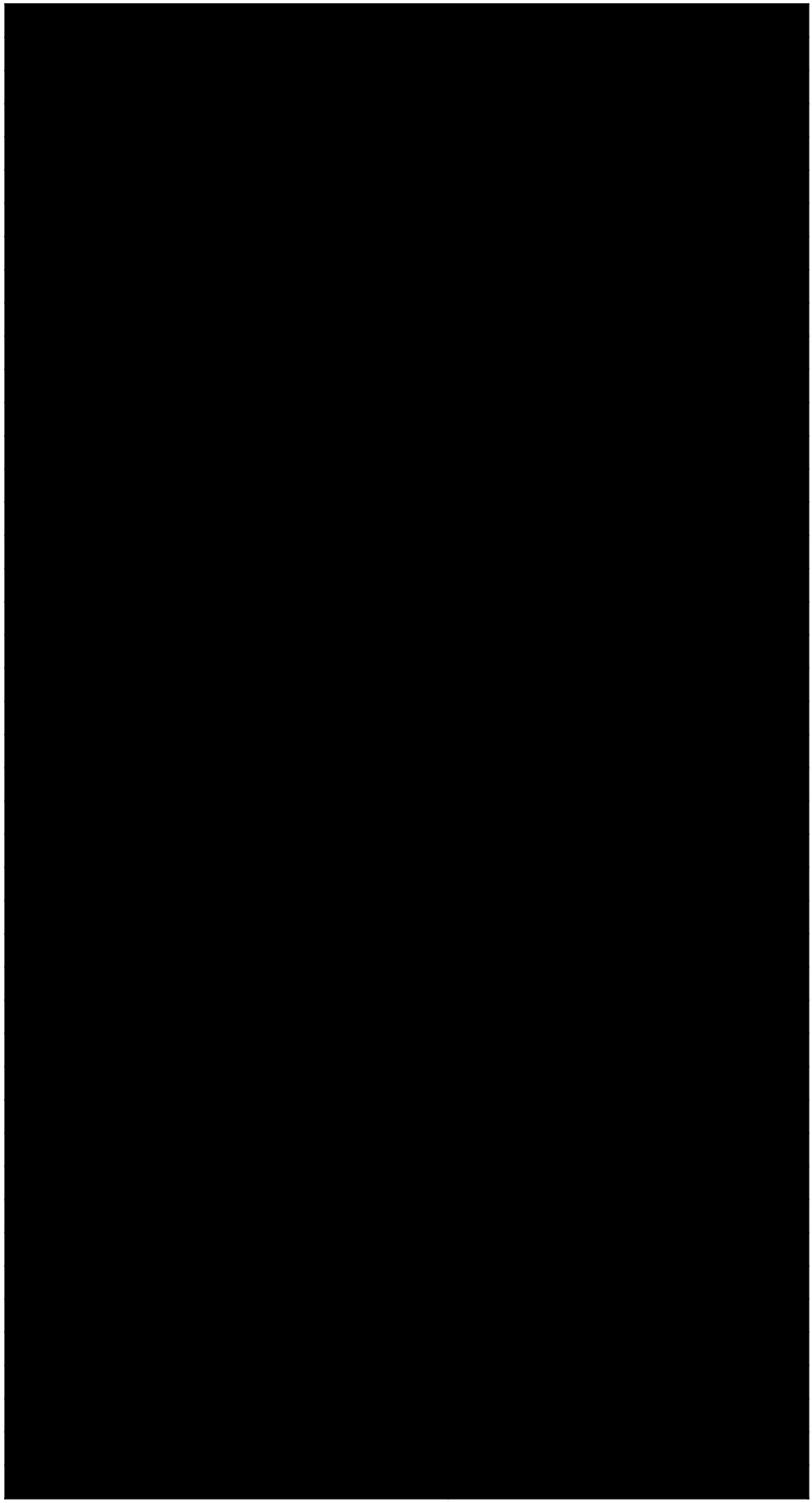


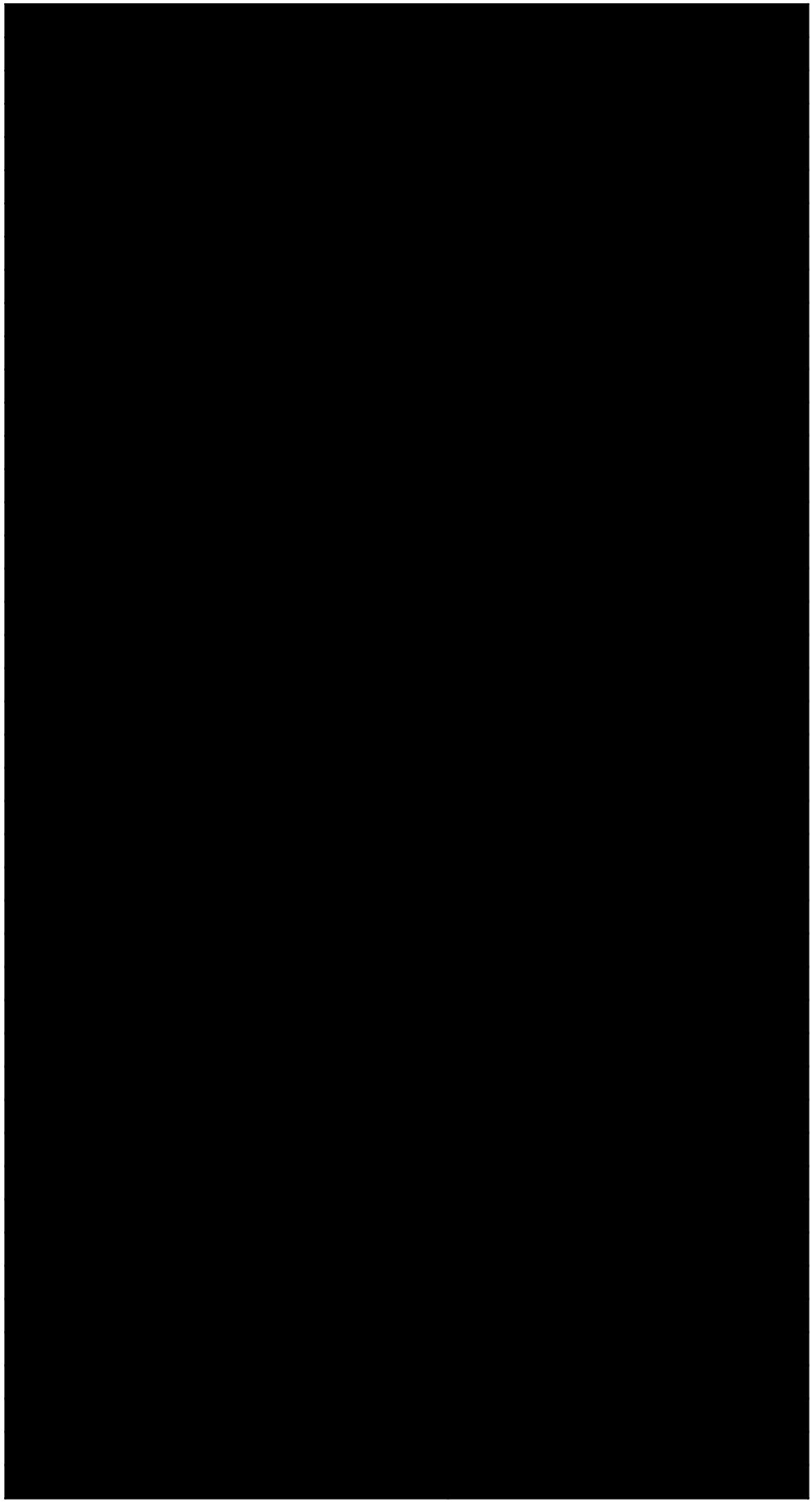


Country	non-US Street Address

Chemical Formula:	
ces (SRS) by name and/or Chemical GHG constituent cannot be found via vailable, CASRN	Specify F-GHG or Category for Purposes of Estimating GWP (if necessary) [98.3(c)(5)(ii)]

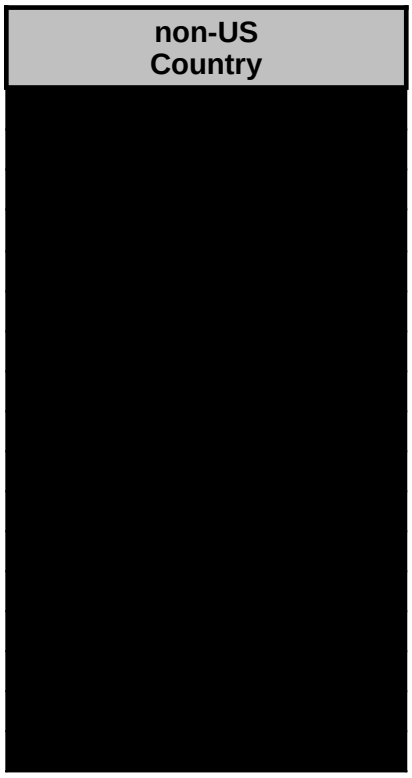






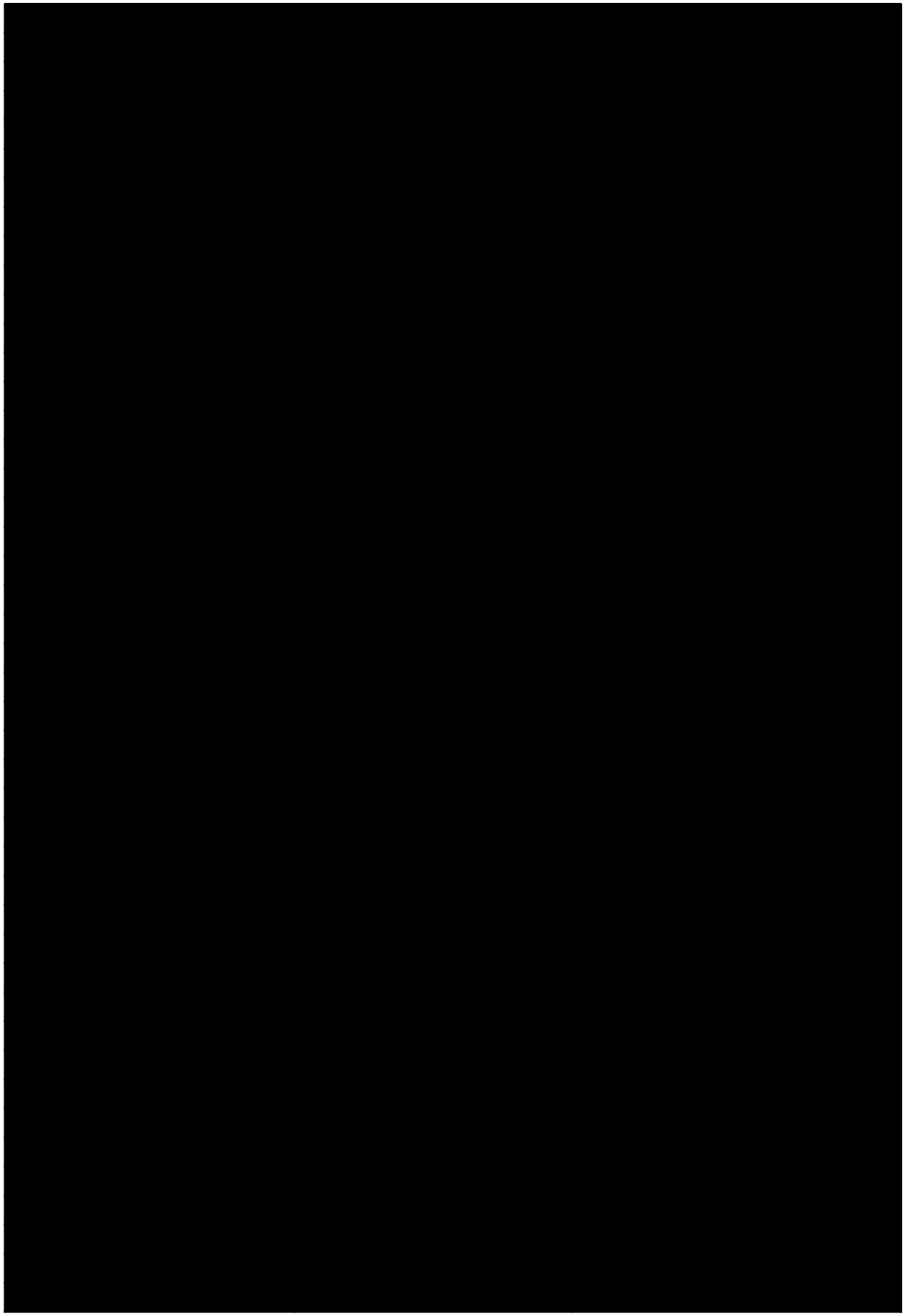
non-US City	non-US Province	non-US Postal Code
[redacted]		

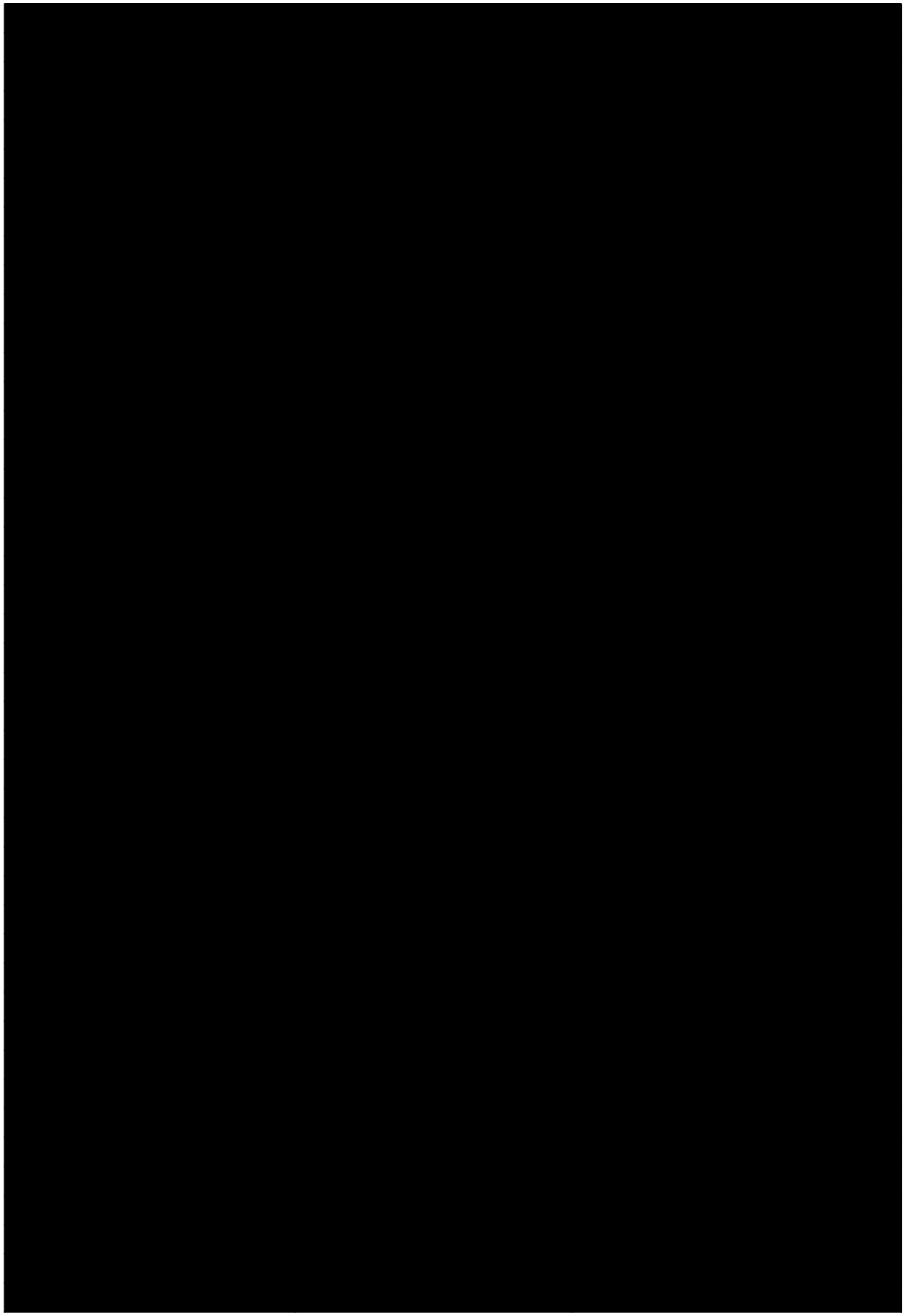
Quantity of the F-GHG or F-HTF sent to that facility for destruction, except those removed as by-products or other waste (metric tons) [98.416(a)(15)]	Was this F-GHG or F-HTF removed from a production process as a BYPRODUCT or OTHER WASTE? [98.416(a)(6) and (a)(7)]	Was the mass determined using a missing data procedure? [98.416(a)(16)]

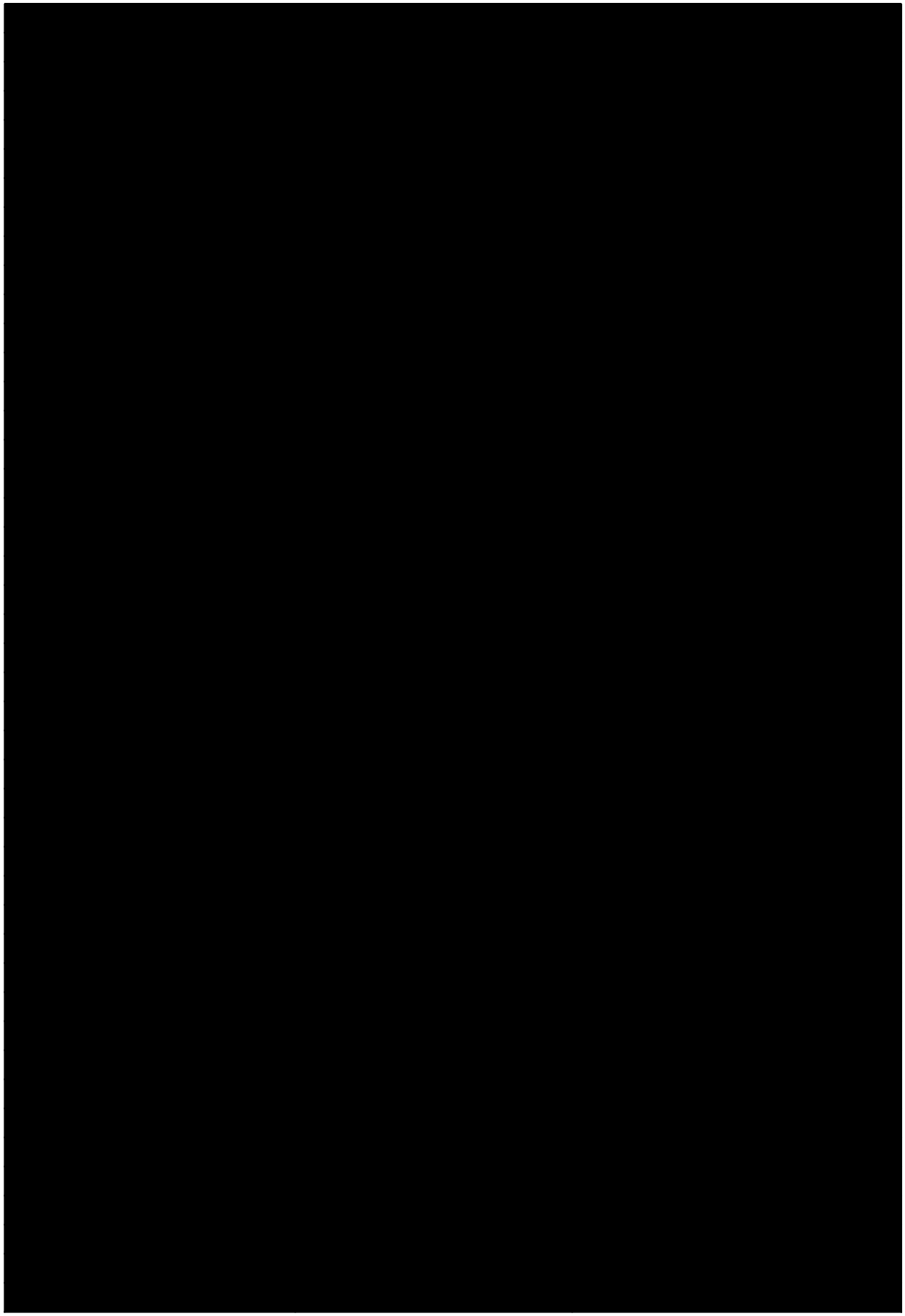

non-US
Country

[redacted]

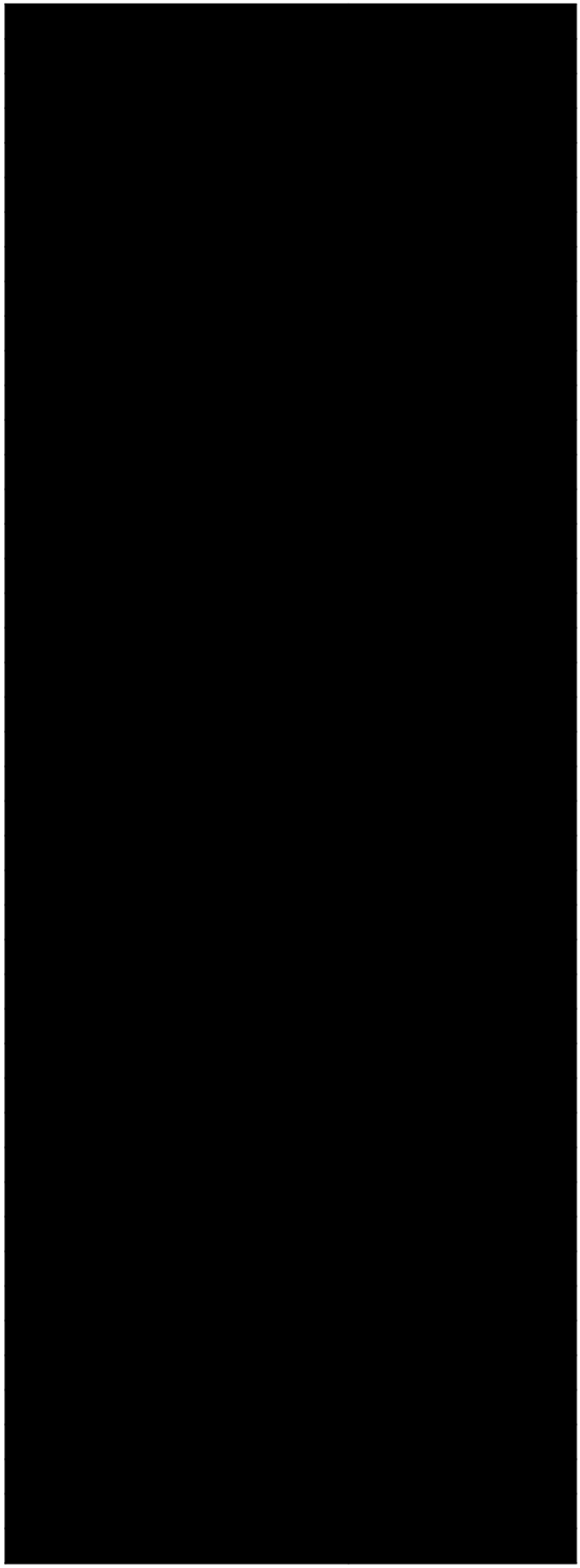
Mass determined using the missing data procedure (metric tons) [98.416(a)(16)]	Number of hours that a missing data procedure was used to measure the mass fed into the destruction device [98.416(a)(16)]	Reason a missing data procedure was used [98.416(a)(16)]
[redacted]		

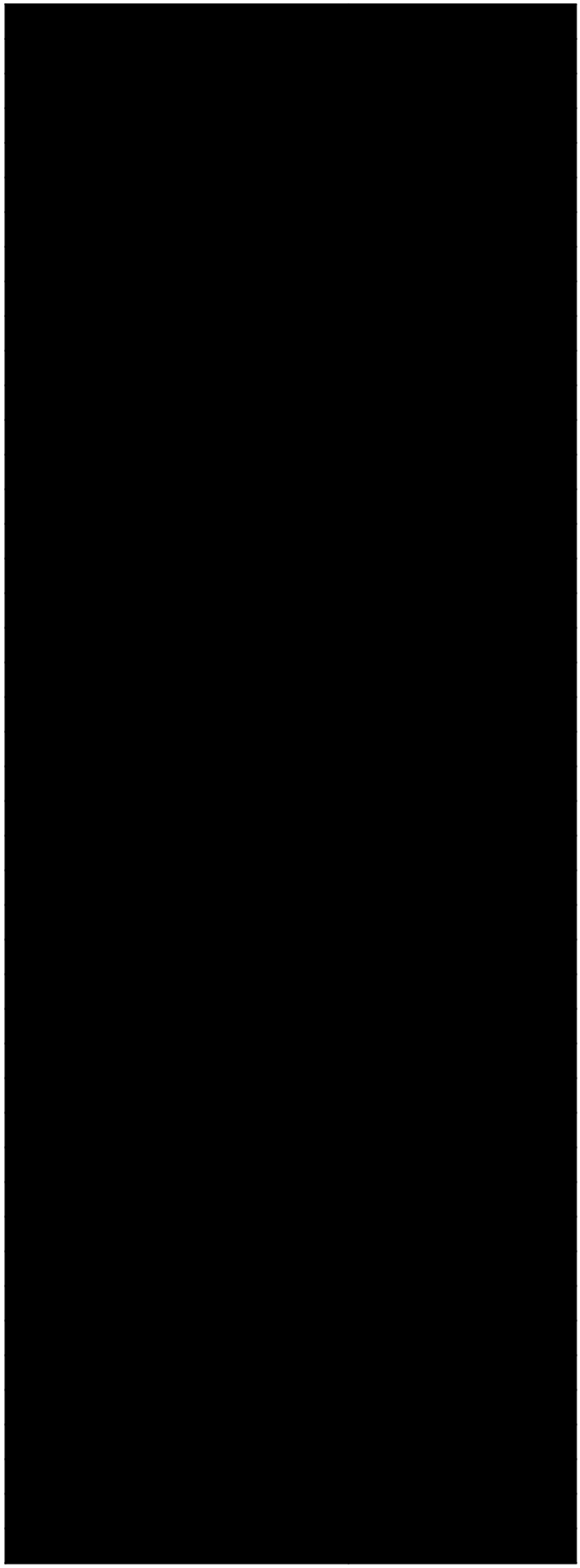


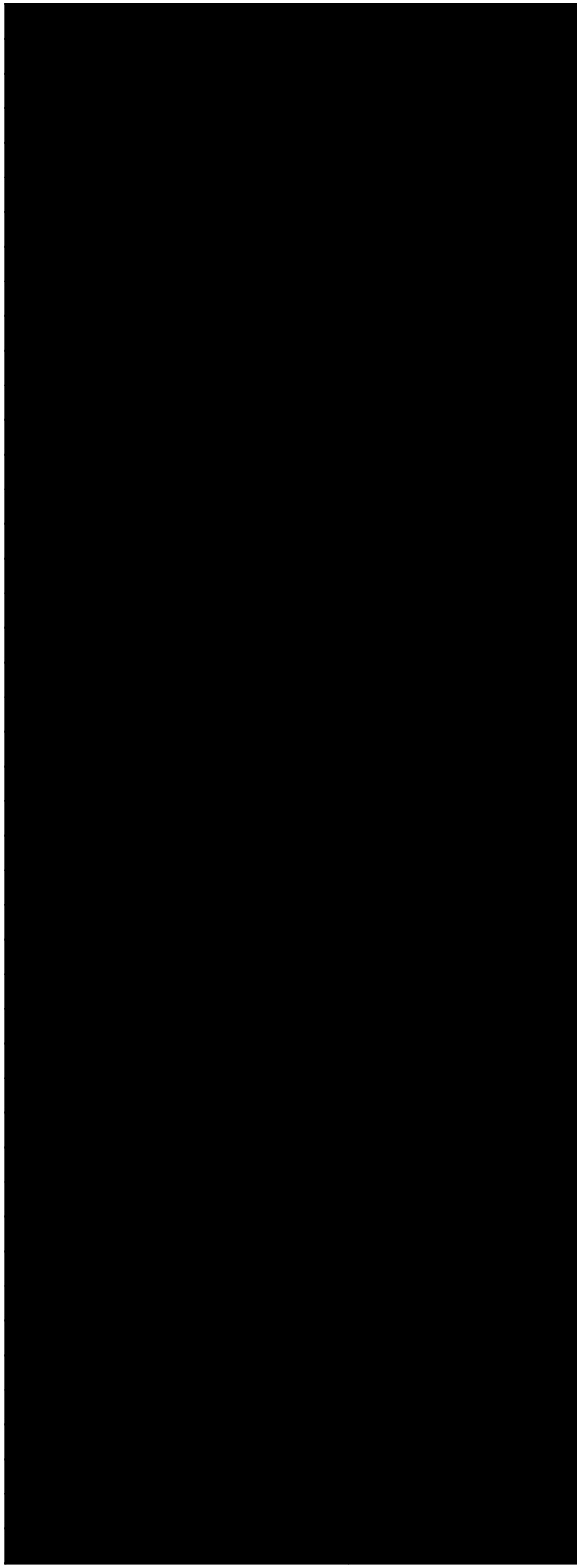




Method used to estimate the missing data [98.416(a)(16)]	Specify the "Other" measurement method used to determine mass (if applicable) [98.416(a)(16)]







Listing of f-GHGs for Use in Subpart OO Producers Form

The following F-GHGs are listed only by name in the F-GHG pick lists on the preceding tabs. The f-GHGs below are presented in the same order as in the pick lists. **Use Ctrl+F to search this list by name or CASRN**. Once you have identified the F-GHG please note the F-GHG name used in this Inputs Form and its location within the pick list so that you can more easily locate it in the pick lists.

Chemical Name
Nitrous Oxide
Sulfur hexafluoride
Trifluoromethyl sulphur pentafluoride
Nitrogen trifluoride
PFC-14 (Perfluoromethane)
PFC-116 (Perfluoroethane)
PFC-218 (Perfluoropropane)
Perfluorocyclopropane
PFC-3-1-10 (Perfluorobutane)
Perfluorocyclobutane
PFC-4-1-12 (Perfluoropentane)
PFC-5-1-14 (Perfluorohexane, FC 72)
PFC-6-1-12
PFC-7-1-18
PFC-9-1-18
PFPMIE (HT-70)
Perfluorodecalin (cis)
Perfluorodecalin (trans)
Octafluorotetrahydrofuran
FC-3283/FC-8270 (Perfluorotripropylamine)
FC-3284 (Perfluoromethylmorpholine)
FC-40/FC-43 (Perfluorotributylamine (PTBA))
FC-770 (Perfluoroisopropylmorpholine)
HT-55
HT-90
HT-110
HT-135
HFC-23
HFC-32
HFC-41
HFC-125
HFC-134
HFC-134a
HFC-143
HFC-143a
HFC-152
HFC-152a
HFC-161

HFC-227ca
HFC-227ea
HFC-236cb
HFC-236ea
HFC-236fa
HFC-245ca
HFC-245cb
HFC-245ea
HFC-245eb
HFC-245fa
HFC-263fb
HFC-272ca
HFC-329p
HFC-365mfc
HFC-43-10mee
1,1,1,2,2,3,3-Heptafluoro-3-(1,2,2,2-tetrafluoroethoxy)-propane
1,1,2,2-Tetrafluoro-1-(fluoromethoxy)ethane
1,1,2,2-Tetrafluoro-3-methoxy-propane; Methyl 2,2,3,3-tetrafluoropropyl ether
1,1,2-Trifluoro-2-(trifluoromethoxy)-ethane
1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15-eicosafluoro-2,5,8,11,14-Pentaoxapentadecane
1-Ethoxy-1,1,2,2,3,3,3-heptafluoropropane
1-Ethoxy-1,1,2,3,3,3-hexafluoropropane
2-Chloro-1,1,2-trifluoro-1-methoxyethane
2-Ethoxy-3,3,4,4,5-pentafluorotetrahydro-2,5-bis[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-furan
Difluoro(fluoromethoxy)methane
Difluoro(methoxy)methane
Fluoro(fluoromethoxy)methane
Fluoro(methoxy)methane
HCFE-235ca2 (Enflurane)
Isoflurane (HCFE-235da2)
HFE-125
HFE-134
HFE-143a
HFE-227ea
HFE-236ca
HFE-236ca12 (HG-10)
Desflurane (HFE-236ea2)
HFE-236fa
HFE-245cb2
HFE-245fa1
HFE-245fa2
HFE-254cb2
HFE-263fb2
HFE-263m1; R-E-143a
HFE-329mcc2

HFE-329me3
HFE-338mcf2
HFE-338mmz1
HFE-338pcc13 (HG-01)
HFE-347mcc3
HFE-347mcf2
HFE-347mmy1
Sevoflurane
HFE-347pcf2
HFE-356mec3
HFE-356mff2
HFE-356mmz1
HFE-356pcc3
HFE-356pcf2
HFE-356pcf3
HFE-365mcf2
HFE-365mcf3
HFE-374pc2
HFE-43-10pccc (H-Galden 1040x)
HFE-449sl, (HFE-7100) Isomer blend
HFE-569sf2, (HFE-7200) Isomer blend
HG'-01
HG'-02
HG-02
HG'-03
HG-03
HG-20
HG-21
HG-30
Trifluoro(fluoromethoxy)methane
HFE-7300 (1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane)
HFE-7500 (3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-trifluoromethyl-hexane)
Trifluoromethyl formate
Perfluoroethyl formate
1,2,2,2-Tetrafluoroethyl formate
Perfluorobutyl formate
Perfluoropropyl formate
1,1,1,3,3,3-Hexafluoropropan-2-yl formate
2,2,2-Trifluoroethyl formate
3,3,3-Trifluoropropyl formate
Methyl 2,2,2-trifluoroacetate
1,1-Difluoroethyl 2,2,2-trifluoroacetate
Difluoromethyl 2,2,2-trifluoroacetate
2,2,2-Trifluoroethyl 2,2,2-trifluoroacetate
Methyl 2,2-difluoroacetate

Perfluoroethyl acetate
Trifluoromethyl acetate
Perfluoropropyl acetate
Perfluorobutyl acetate
Ethyl 2,2,2-trifluoroacetate
Methyl carbonofluoridate
1,1-Difluoroethyl carbonofluoridate
Bis(trifluoromethyl)-methanol
(Octafluorotetramethy-lene)hydroxymethyl group
2,2,3,3,3-pentafluoropropanol
2,2,3,3,4,4,4-Heptafluorobutan-1-ol
2,2,2-Trifluoroethanol
2,2,3,4,4,4-Hexafluoro-1-butanol
2,2,3,3-Tetrafluoro-1-propanol
2,2-Difluoroethanol
2-Fluoroethanol
4,4,4-Trifluorobutan-1-ol
PFC-1114; TFE
PFC-1216; Dyneon HFP
PFC C-1418
Perfluorobut-2-ene
Perfluorobut-1-ene
Perfluorobuta-1,3-diene
HFC-1132a; VF2
HFC-1141; VF
(E)-HFC-1225ye
(Z)-HFC-1225ye
HCFC-1233zd(E)
HFC-1234yf; HFO-1234yf
HFC-1234ze(E)
HFC-1234ze(Z)
HFC-1243zf; TFP
(Z)-HFC-1336
HFC-1345zfc
Capstone 42-U
Capstone 62-U
Capstone 82-U
PMVE; HFE-216
Fluoroxene
3,3,3-Trifluoro-propanal
Novec 649/1230, FK 5-1-12, perfluoro(2-methyl-3-pentanone)
3,3,4,4,5,5,6,6,7,7,7-Undecafluoroheptan-1-ol
3,3,3-Trifluoropropan-1-ol
3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-Pentadecafluorononan-1-ol
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-Nonadecafluoroundecan-1-ol

Trifluoroiodomethane
Dibromodifluoromethane (Halon 1202)
2-Bromo-2-chloro-1,1,1-trifluoroethane (Halon-2311 / Halothane)
Perfluoroethyl vinyl ether
Galden ZT-85
Galden ZT-130
Galden ZT-150
Perfluorosolv PFS-2
DET
HT-80
D05
Perfluoropropyl vinyl ether
2H-perfluoro(5-methyl-3,6-dioxanonane)
Trifluoromethanesulfonyl fluoride
Carbonic difluoride
Trifluoroacetyl fluoride
Perfluorodiethyl ether
Perfluorobutanesulfonyl fluoride
Perfluoropropionyl fluoride
Perfluorobutyliodide
Hexafluorooxetane
Hexafluoropropylene oxide
Propanoic Acid, 3-[1-[Difluoro [(Trifluoroethenyl oxy] Methyl]-1,2,2,2-Tetrafluoroethoxy] -2,2,3,3-Tetrafluoro-, Me
Pentafluoro(trifluoromethoxy)-ethane
1,1,1,3,3,5,5,7,7,9,9,11,11-tridecafluoro-2,4,6,8,10-pentaoxadodecan-12-oyl fluoride
2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy)propanoyl fluoride
C5F13N
Perfluorocyclohexane
HEPTAFLUOROPROPYL TRIFLUOROMETHYL ETHER
Perfluoro-2-(2-Fluorosulfonylethoxy) Propyl Vinyl Ether
Perfluoro(methylcyclopropane)
FC-70
LS-240
D03
DO2-TS
HS-240
HS-260
HT-170
HT-200
HT-230
HT-270
LS-200
LS-215
LS-260
LS-230

Other F-GHG or F-HTFs not listed

	Position Indicators	
CASRN	**Extended List**	**Short List**
10024-97-2	1 of 219	1 of 35
2551-62-4	2 of 219	2 of 35
373-80-8	3 of 219	
7783-54-2	4 of 219	3 of 35
75-73-0	5 of 219	4 of 35
76-16-4	6 of 219	5 of 35
76-19-7	7 of 219	6 of 35
931-91-9	8 of 219	
355-25-9	9 of 219	
115-25-3	10 of 219	7 of 35
678-26-2	11 of 219	8 of 35
355-42-0	12 of 219	9 of 35
335-57-9	13 of 219	10 of 35
307-34-6	14 of 219	
306-94-5	15 of 219	11 of 35
69991-67-9 (b)	16 of 219	12 of 35
60433-11-6	17 of 219	
60433-12-7	18 of 219	
773-14-8	19 of 219	
338-83-0	20 of 219	
382-28-5	21 of 219	
1064698-37-8	22 of 219	
1093615-61-2	23 of 219	
69991-67-9 (a)	24 of 219	
69991-67-9 (c)	25 of 219	
69991-67-9 (d)	26 of 219	
69991-67-9 (e)	27 of 219	
75-46-7	28 of 219	13 of 35
75-10-5	29 of 219	14 of 35
593-53-3	30 of 219	15 of 35
354-33-6	31 of 219	16 of 35
359-35-3	32 of 219	
811-97-2	33 of 219	17 of 35
430-66-0	34 of 219	
420-46-2	35 of 219	18 of 35
624-72-6	36 of 219	
75-37-6	37 of 219	19 of 35
353-36-6	38 of 219	

2252-84-8	39 of 219	
431-89-0	40 of 219	20 of 35
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431-63-0	42 of 219	
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679-86-7	44 of 219	
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431-31-2	47 of 219	
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420-45-1	50 of 219	
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406-58-6	52 of 219	
138495-42-8	53 of 219	
3330-15-2	54 of 219	
37031-31-5	55 of 219	
60598-17-6	56 of 219	
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173350-38-4	58 of 219	
22052-86-4	59 of 219	
380-34-7	60 of 219	
425-87-6	61 of 219	
920979-28-8	62 of 219	
461-63-2	63 of 219	
359-15-9	64 of 219	
462-51-1	65 of 219	
460-22-0	66 of 219	
13838-16-9	67 of 219	
26675-46-7	68 of 219	22 of 35
3822-68-2	69 of 219	
1691-17-4	70 of 219	
421-14-7	71 of 219	
2356-62-9	72 of 219	
32778-11-3	73 of 219	
78522-47-1	74 of 219	
57041-67-5	75 of 219	23 of 35
20193-67-3	76 of 219	
22410-44-2	77 of 219	
84011-15-4	78 of 219	
1885-48-9	79 of 219	
425-88-7	80 of 219	
460-43-5	81 of 219	
690-22-2	82 of 219	
134769-21-4	83 of 219	

428454-68-6	84 of 219	
156053-88-2	85 of 219	
26103-08-2	86 of 219	
188690-78-0	87 of 219	
375-03-1	88 of 219	24 of 35
171182-95-9	89 of 219	
22052-84-2	90 of 219	
28523-86-6	91 of 219	25 of 35
406-78-0	92 of 219	
382-34-3	93 of 219	
333-36-8	94 of 219	
13171-18-1	95 of 219	
160620-20-2	96 of 219	
50807-77-7	97 of 219	
35042-99-0	98 of 219	
22052-81-9	99 of 219	
378-16-5	100 of 219	
512-51-6	101 of 219	
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73287-23-7	105 of 219	
485399-46-0	106 of 219	
205367-61-9	107 of 219	
485399-48-2	108 of 219	
173350-37-3	109 of 219	
249932-25-0	110 of 219	
249932-26-1	111 of 219	
188690-77-9	112 of 219	
2261-01-0	113 of 219	
132182-92-4	114 of 219	
297730-93-9	115 of 219	
85358-65-2	116 of 219	
313064-40-3	117 of 219	
481631-19-0	118 of 219	
197218-56-7	119 of 219	
271257-42-2	120 of 219	
856766-70-6	121 of 219	
32042-38-9	122 of 219	
1344118-09-7	123 of 219	
431-47-0	124 of 219	
1344118-13-3	125 of 219	
2024-86-4	126 of 219	
407-38-5	127 of 219	
433-53-4	128 of 219	

343269-97-6	129 of 219	
74123-20-9	130 of 219	
1344118-10-0	131 of 219	
209597-28-4	132 of 219	
383-63-1	133 of 219	
1538-06-3	134 of 219	
1344118-11-1	135 of 219	
920-66-1	136 of 219	
NA	137 of 219	
422-05-9	138 of 219	
375-01-9	139 of 219	
75-89-8	140 of 219	
382-31-0	141 of 219	
76-37-9	142 of 219	
359-13-7	143 of 219	
371-62-0	144 of 219	
461-18-7	145 of 219	
116-14-3	146 of 219	28 of 35
116-15-4	147 of 219	
559-40-0	148 of 219	29 of 35
360-89-4	149 of 219	
357-26-6	150 of 219	
685-63-2	151 of 219	30 of 35
75-38-7	152 of 219	
75-02-5	153 of 219	31 of 35
5595-10-8	154 of 219	
5528-43-8	155 of 219	
102687-65-0	156 of 219	32 of 35
754-12-1	157 of 219	
1645-83-6	158 of 219	33 of 35
29118-25-0	159 of 219	
677-21-4	160 of 219	34 of 35
692-49-9	161 of 219	
374-27-6	162 of 219	
19430-93-4	163 of 219	
25291-17-2	164 of 219	
21652-58-4	165 of 219	
1187-93-5	166 of 219	35 of 35
406-90-6	167 of 219	
460-40-2	168 of 219	
756-13-8	169 of 219	
185689-57-0	170 of 219	
2240-88-2	171 of 219	
755-02-2	172 of 219	
87017-97-8	173 of 219	

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75-61-6	175 of 219
151-67-7	176 of 219
10493-43-3	177 of 219
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161075-02-01 (b)	179 of 219
161075-02-01 (c)	180 of 219
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69991-67-9 (r)	182 of 219
69991-67-9 (s)	183 of 219
69991-67-9 (t)	184 of 219
1623-05-8	185 of 219
3330-14-1	186 of 219
335-05-7	187 of 219
353-50-4	188 of 219
354-34-7	189 of 219
358-21-4	190 of 219
375-72-4	191 of 219
422-61-7	192 of 219
423-39-2	193 of 219
425-82-1	194 of 219
428-59-1	195 of 219
63863-43-4	196 of 219
665-16-7	197 of 219
21703-49-1	198 of 219
2062-98-8	199 of 219
678-29-5	200 of 219
355-68-0	201 of 219
59426-77-6	202 of 219
16090-14-5	203 of 219
379-16-8	204 of 219
338-84-1	205 of 219
69991-67-9 (u)	206 of 219
69991-67-9 (o)	207 of 219
69991-67-9 (g)	208 of 219
69991-67-9 (k)	209 of 219
69991-67-9 (l)	210 of 219
69991-67-9 (f)	211 of 219
69991-67-9 (h)	212 of 219
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