Phasedown of Hydrofluorocarbons: Restrictions on Subsection (i) of the American Innovation and Manu § 84.60 Reporting Form

Worksheet Instructions:
This reporting form should be completed by any person who imports or manufactu in § 84.54 that uses or is intended to use a regulated substance or blend containi prior to submission. Provide supporting documentation, as needed, to respond to reporting requirements.
Version:
1.0
Updated:
10/20/2023
External Links:
https://www.epa.gov/climate-hfcs-reduction/technology-transitions
https://www.epa.gov/climate-hfcs-reduction/regulatory-actions-technology-transitions
Reporting Form Navigation:
Part 1: Background Information and Certification
Identifying Information
Signed Certification
Part 2a: RACHP Sector Reporting Form
Part 2b: Foam Sector Reporting Form
Part 2c: Aerosols Sector Reporting Form
Part 3: Other HFCs and Custom Blends

Identifying Information

Instructions: Provide the following information in the table below.

Reporting entity's name:	
Physical Street Address:	
City:	
State:	
Zip Code:	
Contact Person:	
Email Address:	
Phone Number:	
Year Covered in Report:	
NAICS code(s) that apply:	

Signed Certification

Instructions: As proposed, EPA is requiring that reports be signed and attes reporting requirements are providing a statement of certification that the da regulated substances, or blends containing regulated substances, that mee 84.58

Date of Submittal:	
Signature:	

EPA Form # 5900-709

OMB Control Number: 2060-0759
Expiration Date: XX/XX/20XX

the Use of Certain Hydrofluorocarbons under facturing Act of 2020

ures a product or specified component within a sector or subsector listed ng a regulated substance. All sections of the report must be completed this reporting request. See § 84.60 for more discussion around the

sted. By providing signature here, entities subject to the proposed
ıta they provide are accurate and certifying that the products use
t the requirements of § 84.54, and are labeled in accordance with §

n Act, 44 U.S.C. 3501 et seq. (OMB Control No. XXXX-XXXX).
duct or sponsor, and a person is not required to respond to, a collection
reporting and recordkeeping burden for this collection of information is
this information, the accuracy of the provided burden estimates and any
of automated collection techniques to the Director, Regulatory Support
., NW, Washington, D.C. 20460. Include the OMB control number in any

Phasedown of Hydrofluorocarbons: Restr
of 2020
§ 84.60 Reporting Form

Refrigeration, Air Conditioning, and Heat

Reporting Form Navigation:

Required Reporting Information - RACHP Secto

**Instructions: Follow the instructions for each column to ente
dropdown selection or require data to be entered. Cells that
under "Identify of the HFC or HFC Blend Used," or for custor**

Select from dropdown

	Sector	Product or Specified Component
1	RACHP	
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200	RACHP	

ictions on the Use of Certain Hydrofluorocarbons

Pumps (RACHP) Sector

r

r required reporting information on RACHP products and specified comp
are shaded light gray are calculated columns. Use a different row for eac
n blends, enter the HFC or the custom blend in the "3. Other HFCs +Cust

Select from dropdown	*Select from dropdown*
Subsector	**Additional Subsector Information**

under Subsection (i) of the American Innovatio

ponents AND closed-cell foams contained in RACHP equipment. Cel
ch entry. Do not skip any rows and do not merge cells. For any HFCs
tom Blends" tab.

Enter Data	*Enter Data*
Equipment Type (e.g., compressor) [optional]	**Additional Equipment Information (e.g., model number) [optional]**

OMB Control Number: XXXX-XXXX
Expiration Date: XX/XX/20XX

›n and Manufacturing Act

ls that are shaded blue have either a
; that are not available in the dropdown

Select from dropdown	*Select from dropdown*
Does the product or specified component include closed-cell foam containing a regulated substance?	**Identity of the HFC or HFC Blend Used in Product or Specified Component**

Enter data *Select from dropdown* *Enter data if shaded blue*

Charge Size (including holding charge or no charge, if applicable)	Charge Size Units	Mass of the Regulated Substance

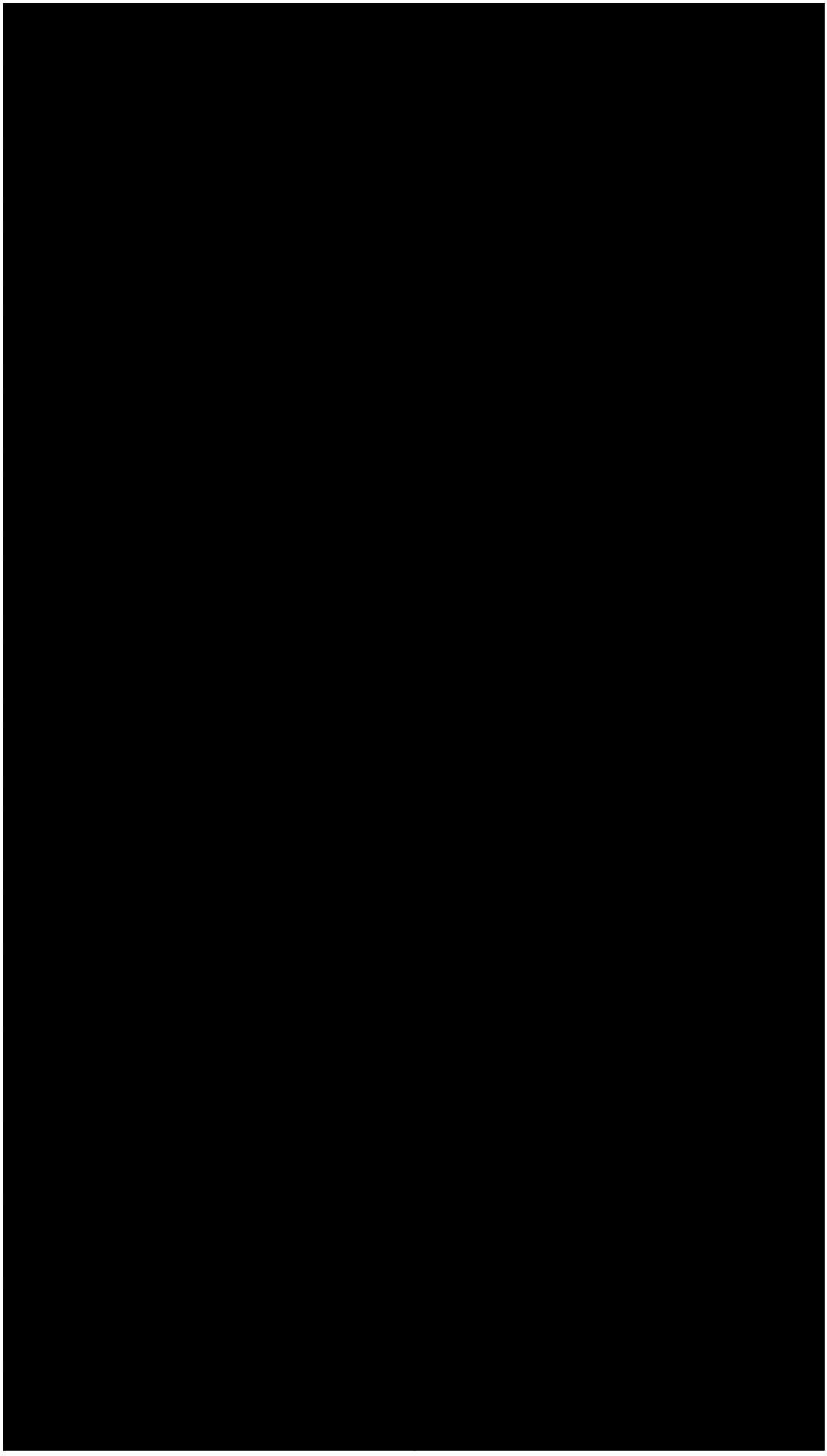
Select from dropdown *Calculated - No Entry Required* *Enter data*

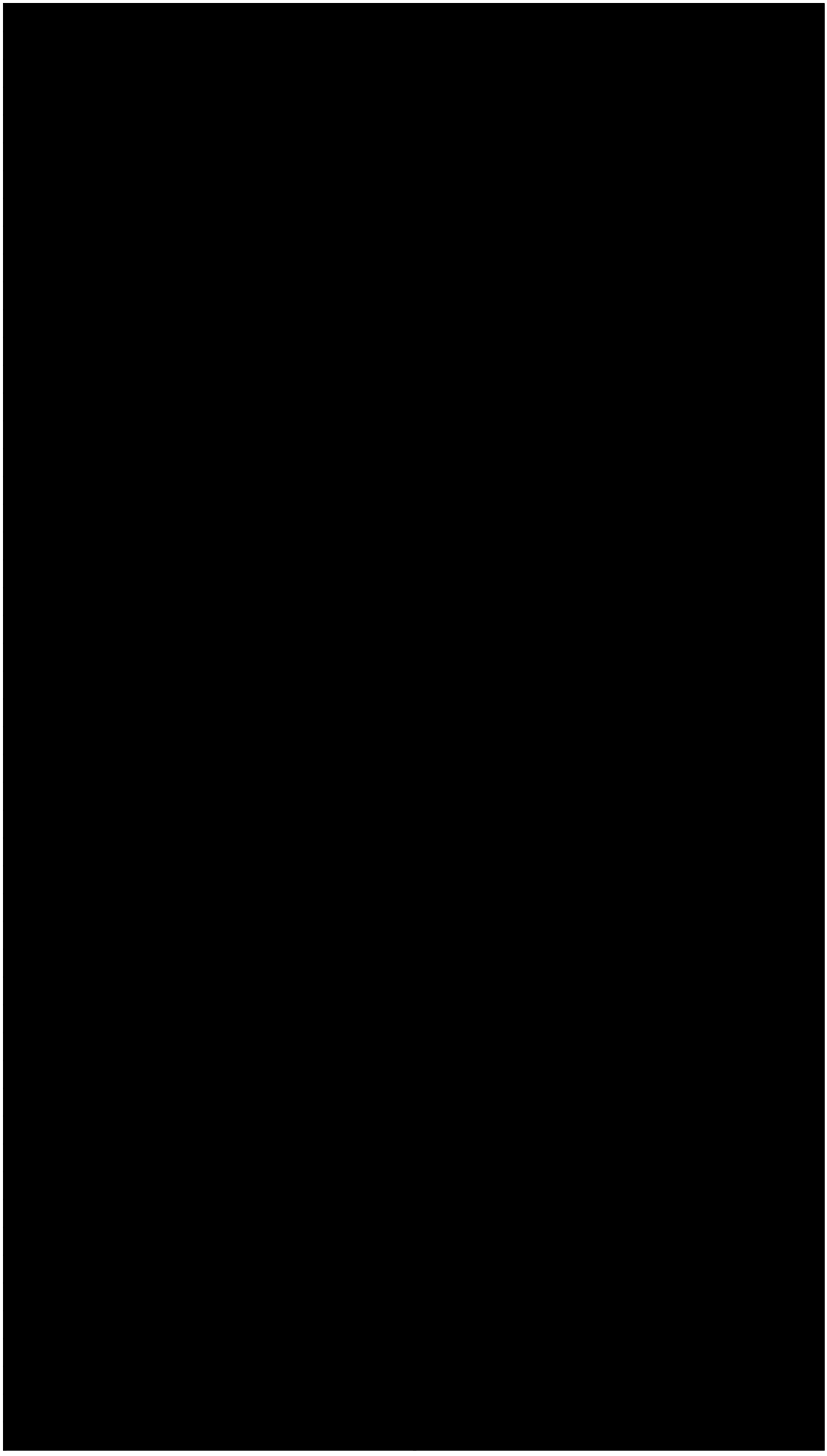
Mass of the Regulated Substance Units	Mass of the Regulated Substance (Metric Tons)	Number o	
		Domestically Manufactured	

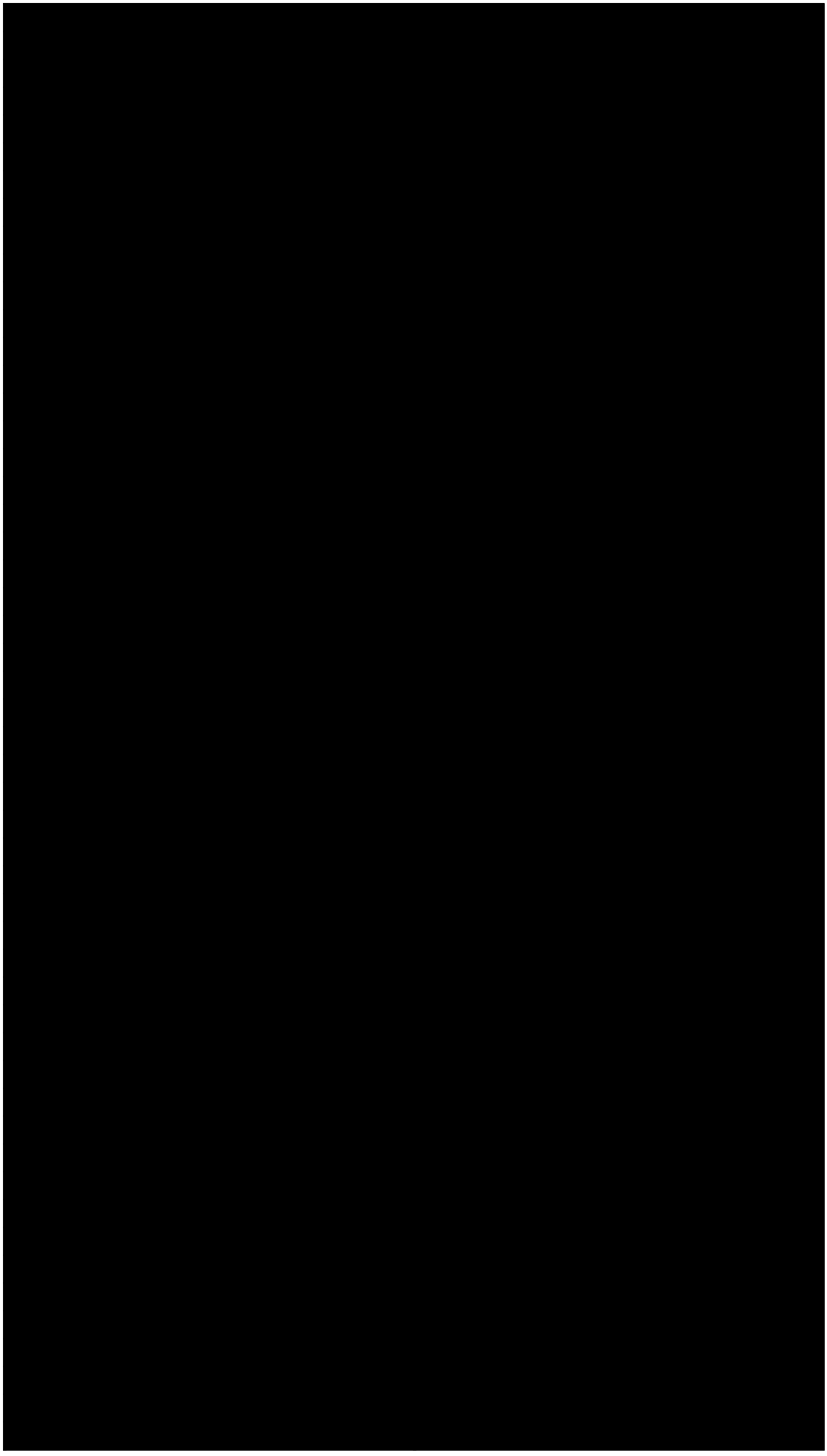
Enter data	*Enter data*
f Product or Specified Component Units	
Imported	**Exported**

Select from dropdown

Identity of the HFC or HFC Blend Used in Closed-Cell Foam	Mass of the Regulated Substance Used in Closed-Cell Foam
HFC-152a	2000
HFC-134a HFC-152a	0.5

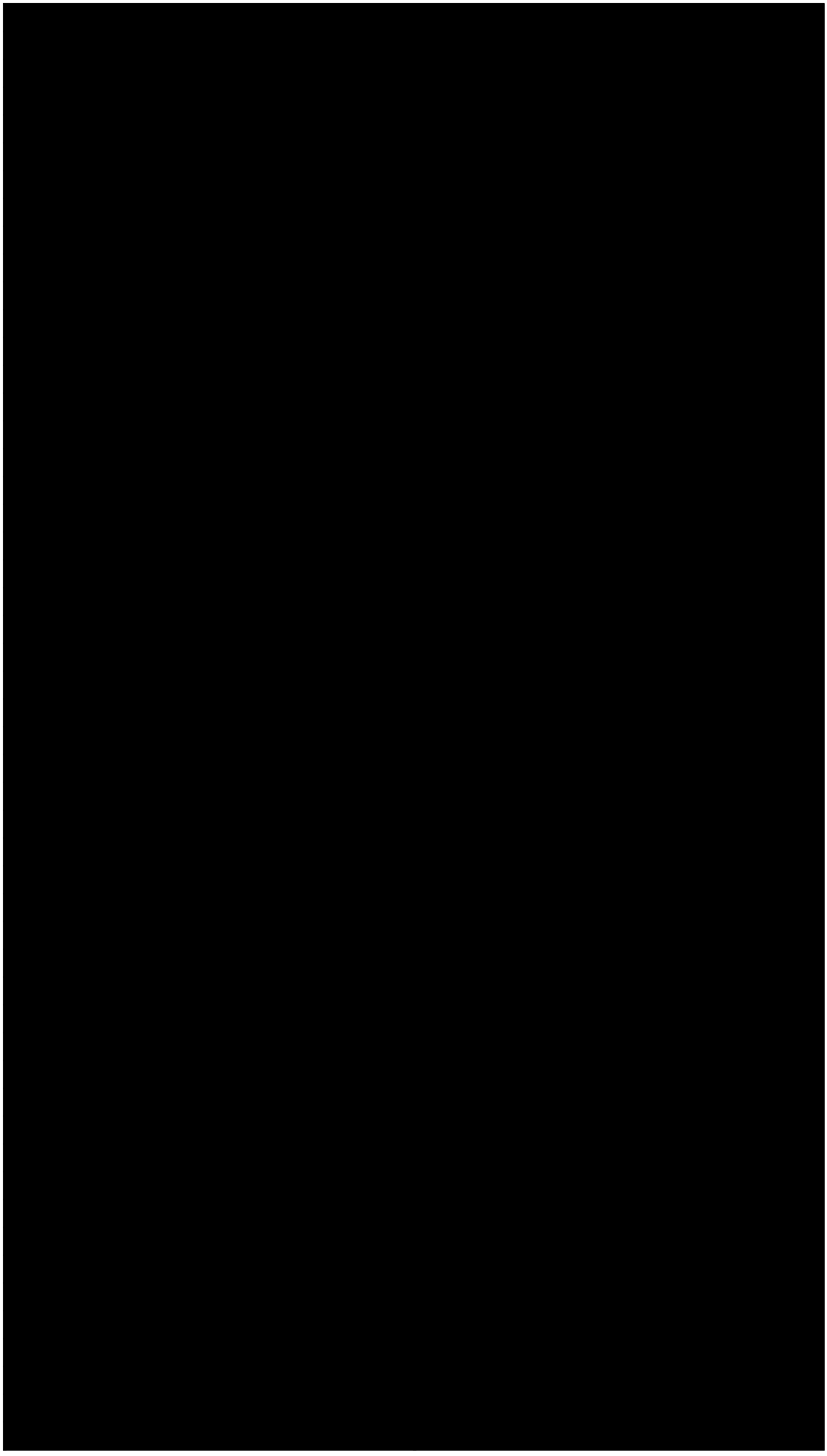


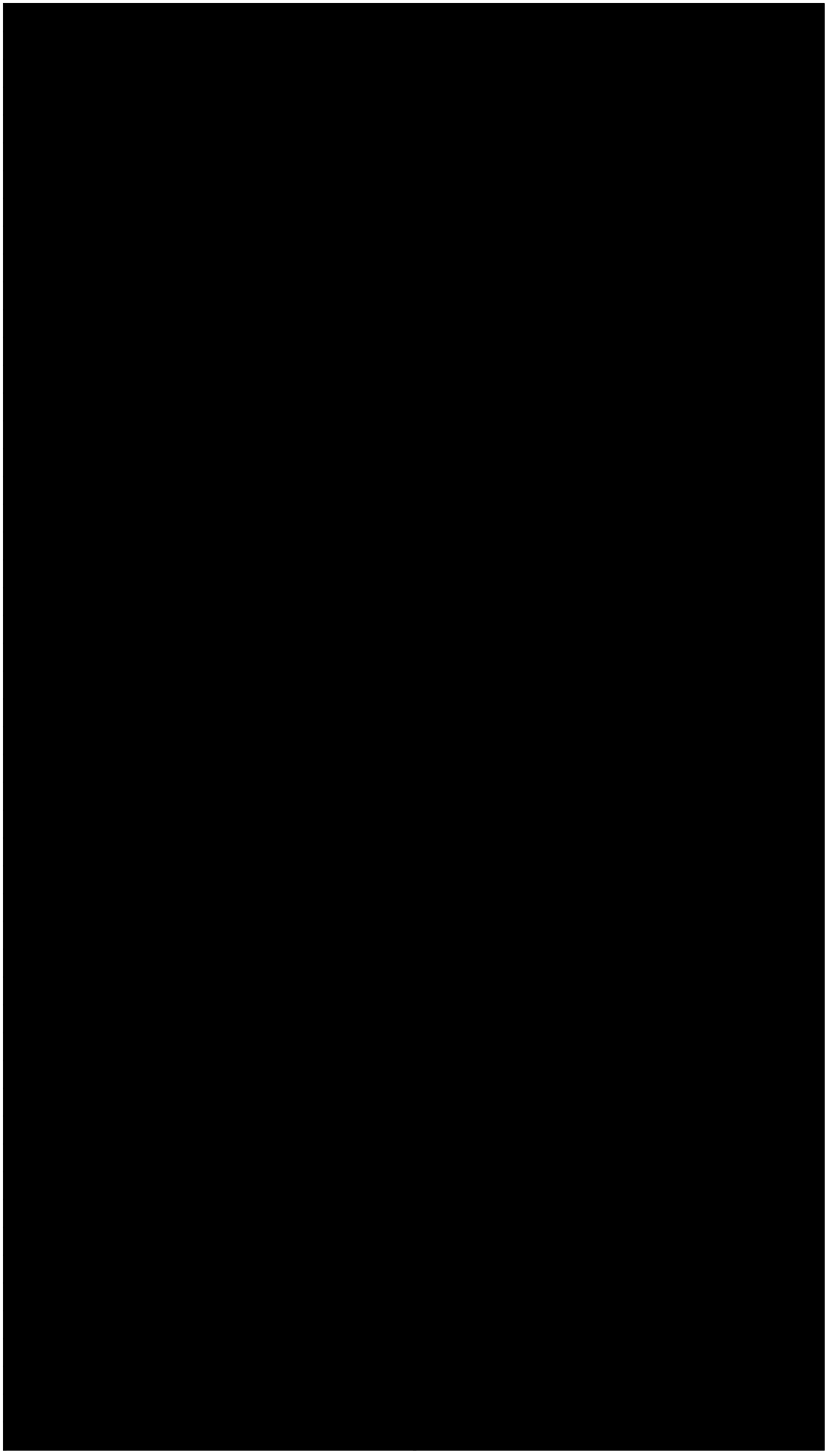


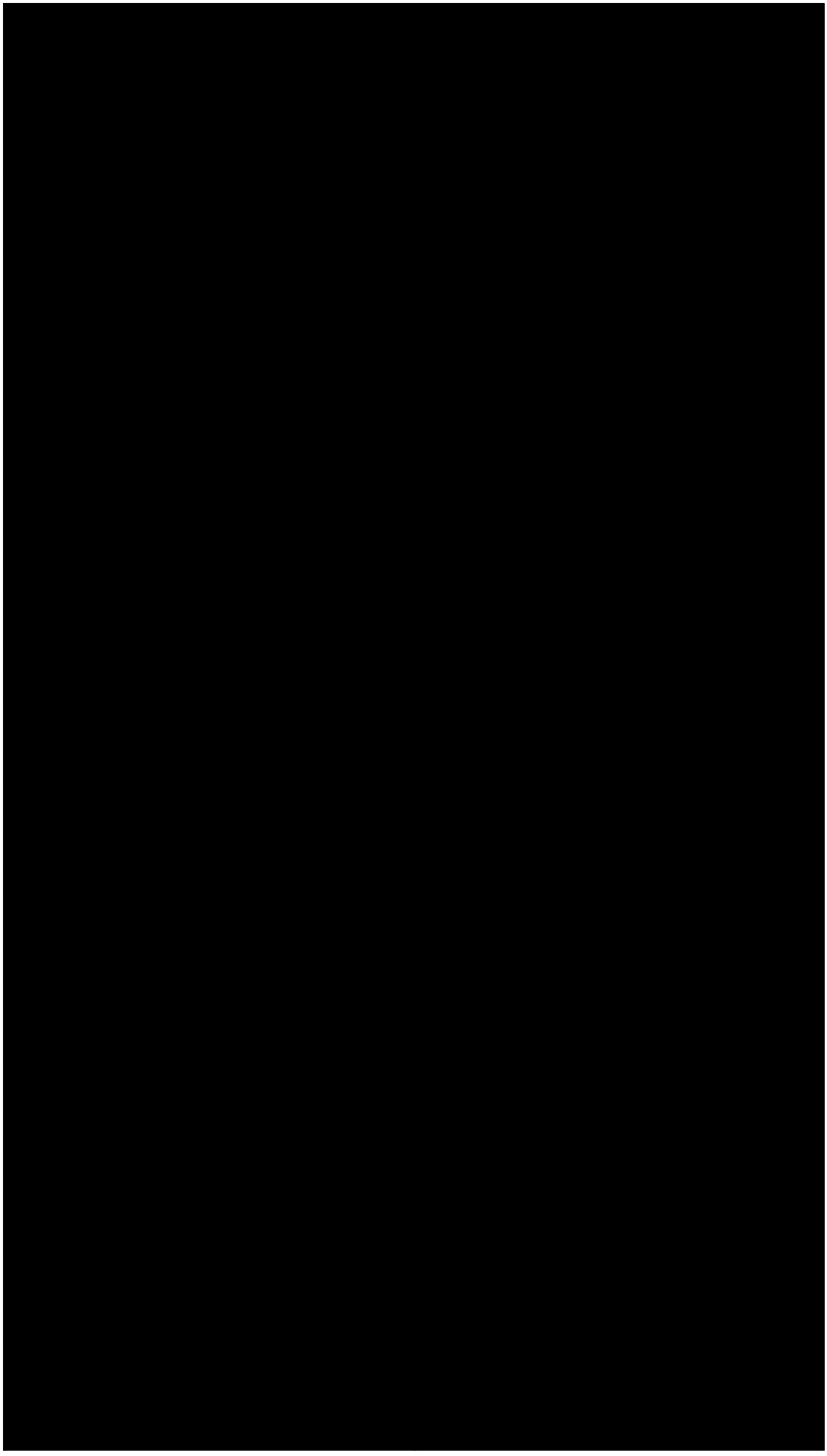


Enter mass or density depending on the product data available

Mass of Regulated Substance Used in Closed-Cell Foam Units	Density of the Regulated Substance Used in Closed-Cell Foam
ounces (oz)	
kilograms (kg)	100 5

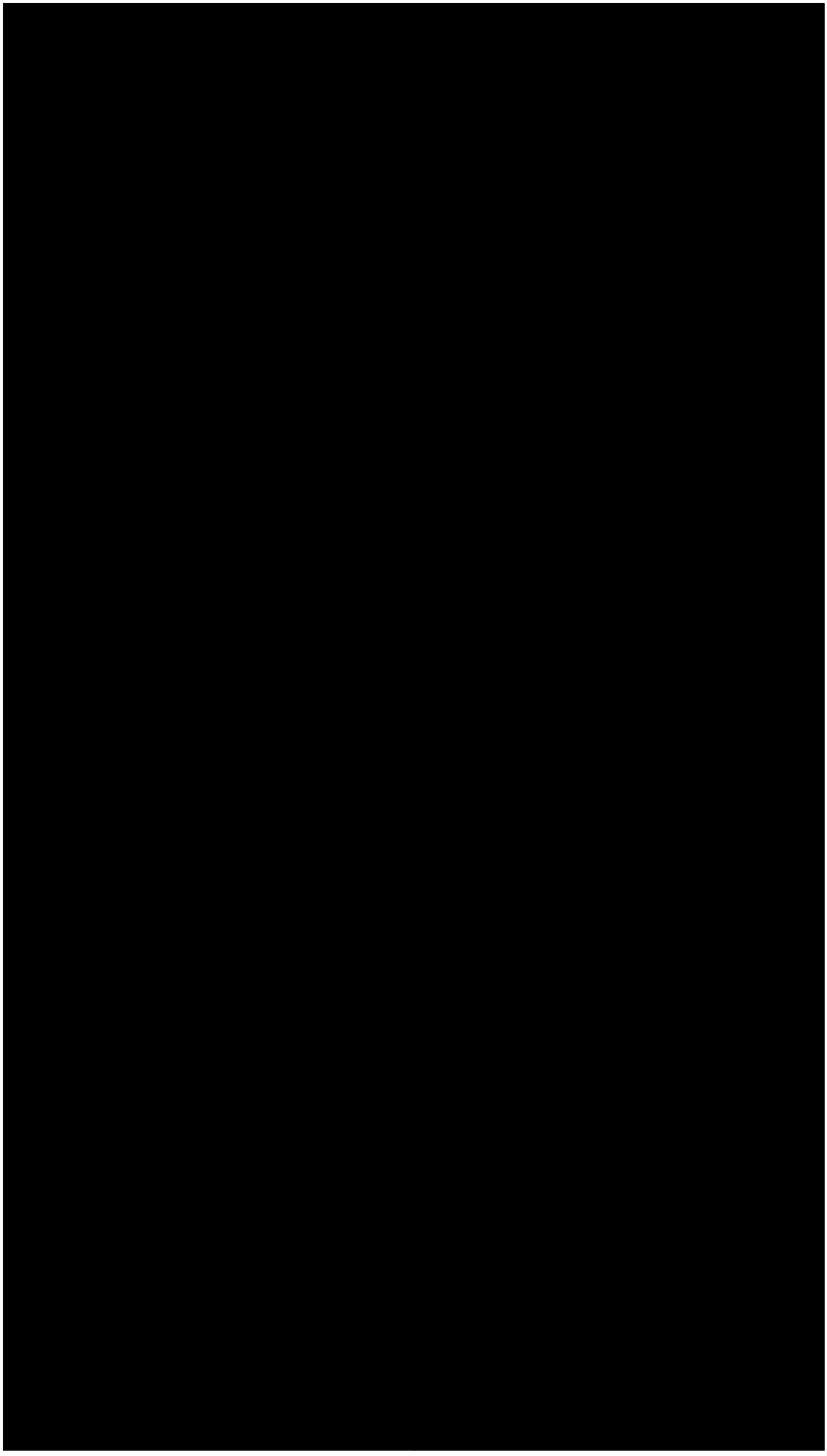


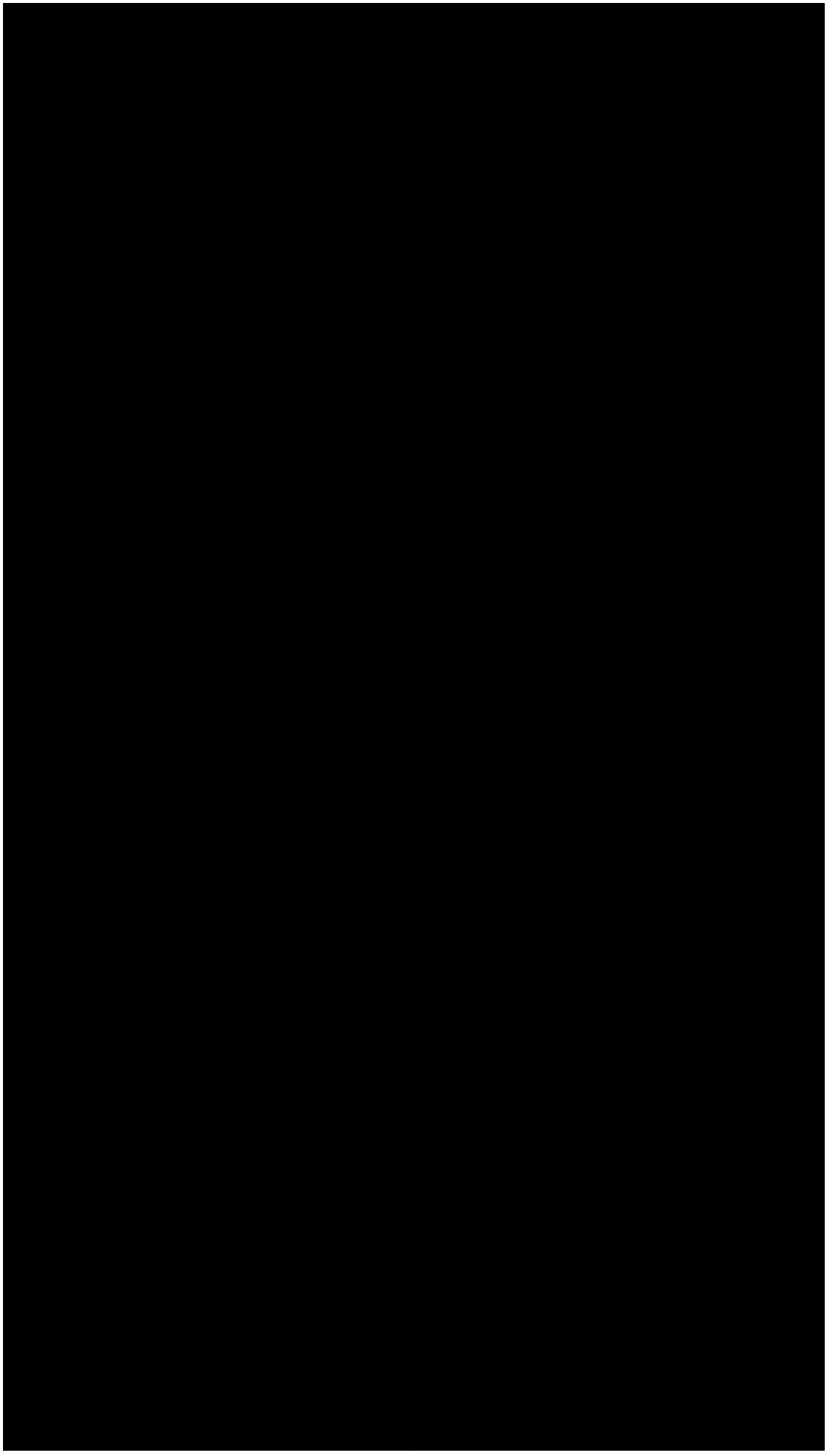


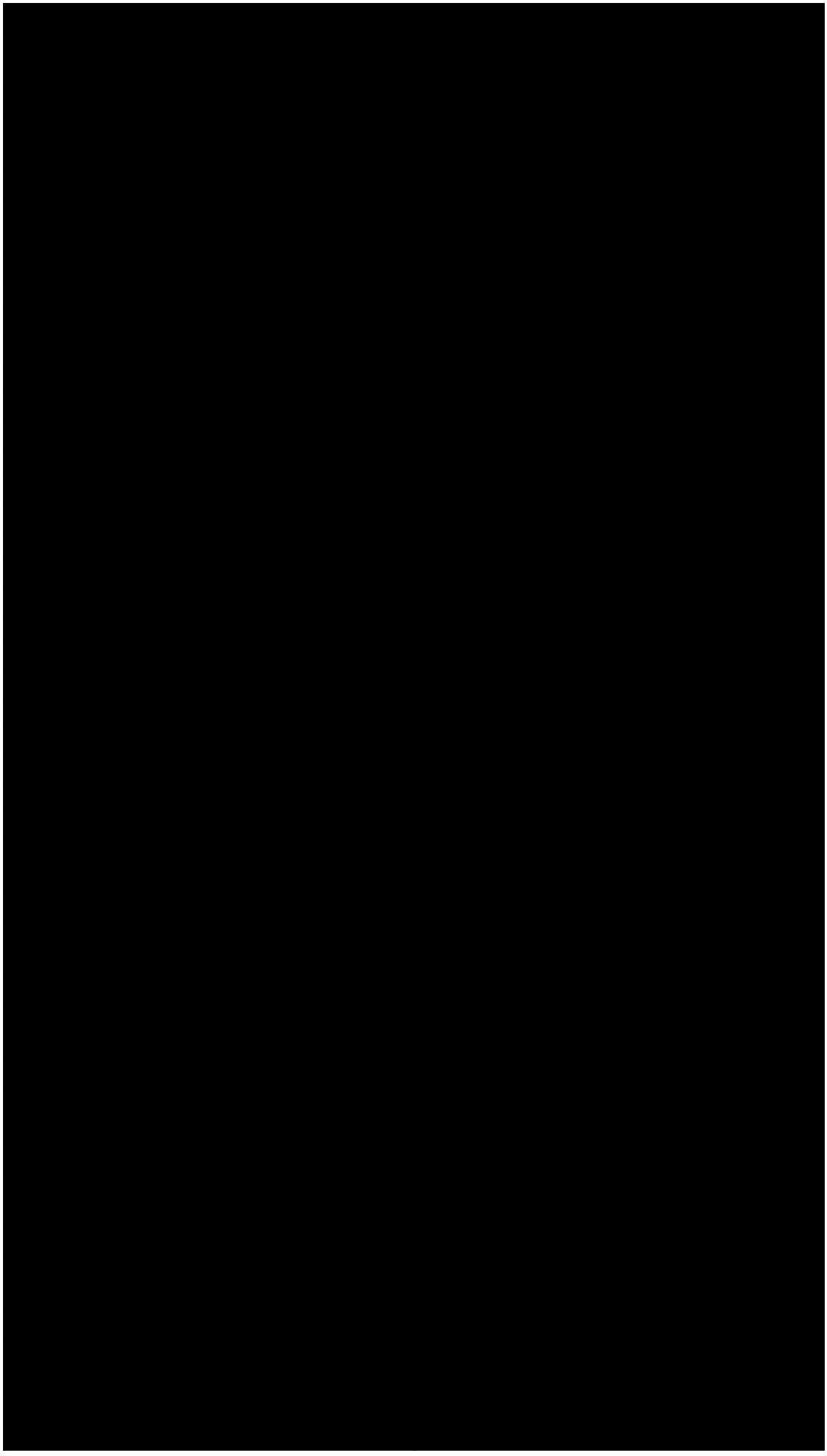


Enter data if shaded blue

Density of the Regulated Substance Used in Closed-Cell Foam Units	Domestically Manufactured
lb of regulated substance per cubic foot	
lb of regulated substance per cubic foot	40

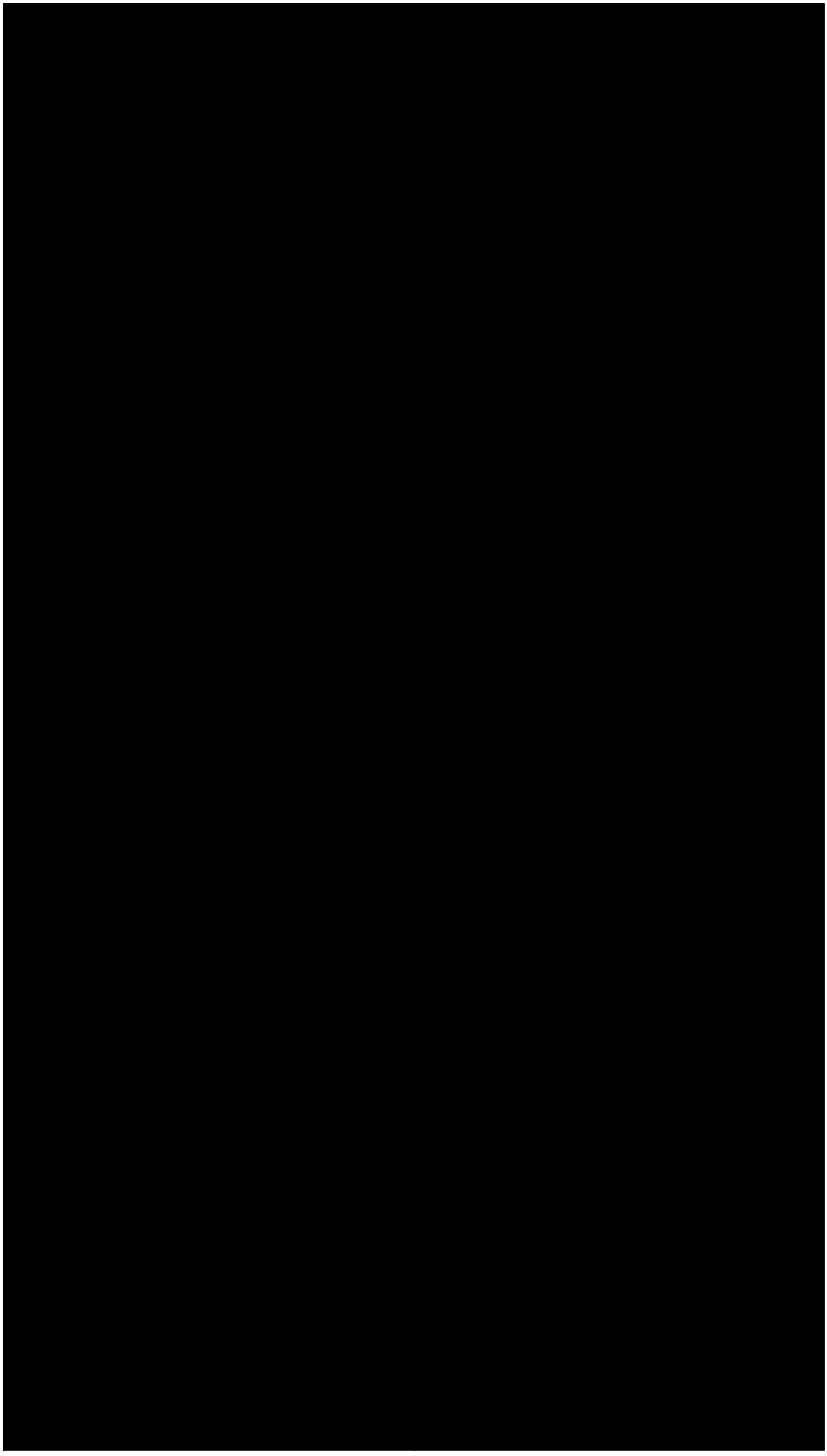


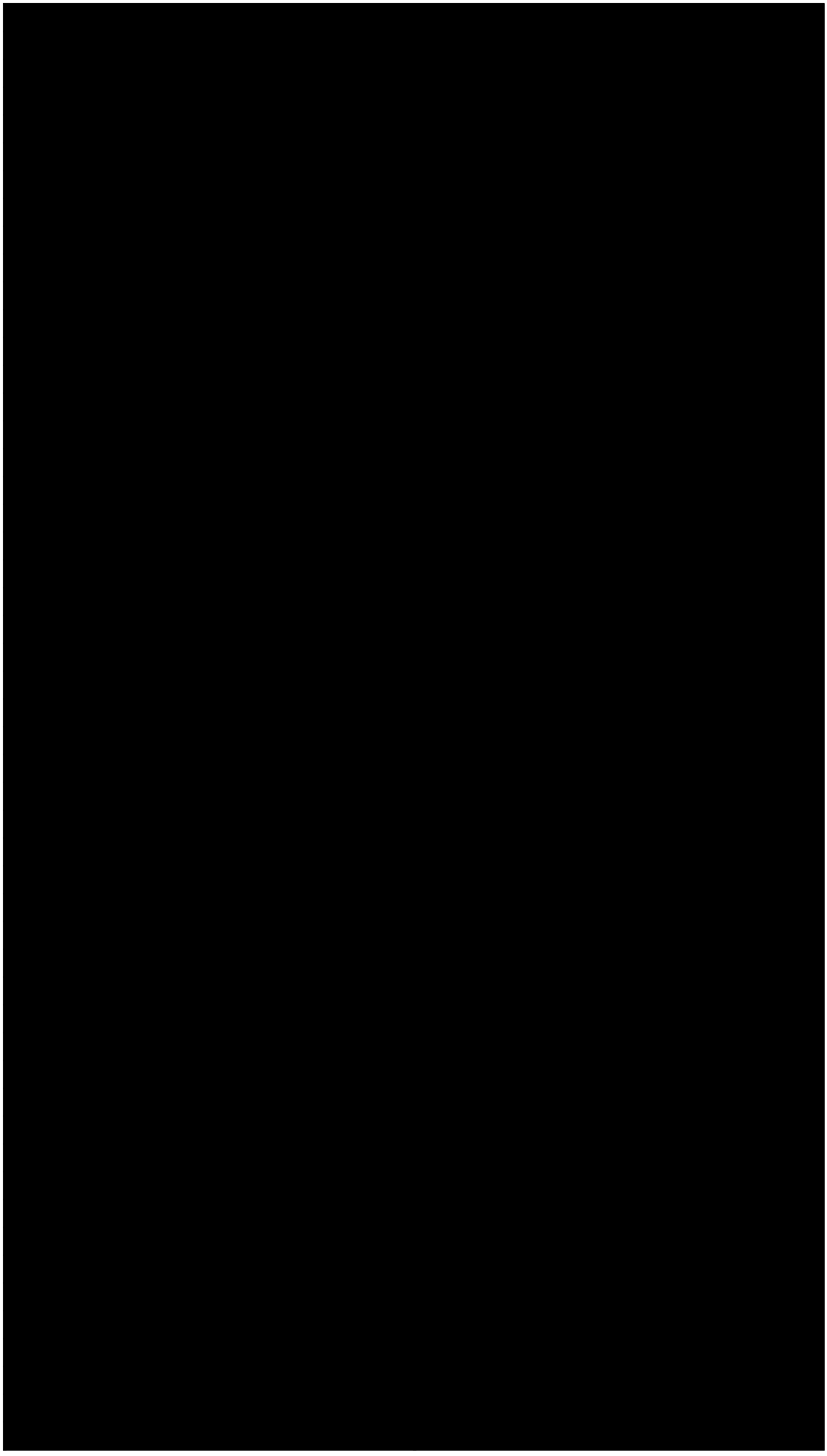


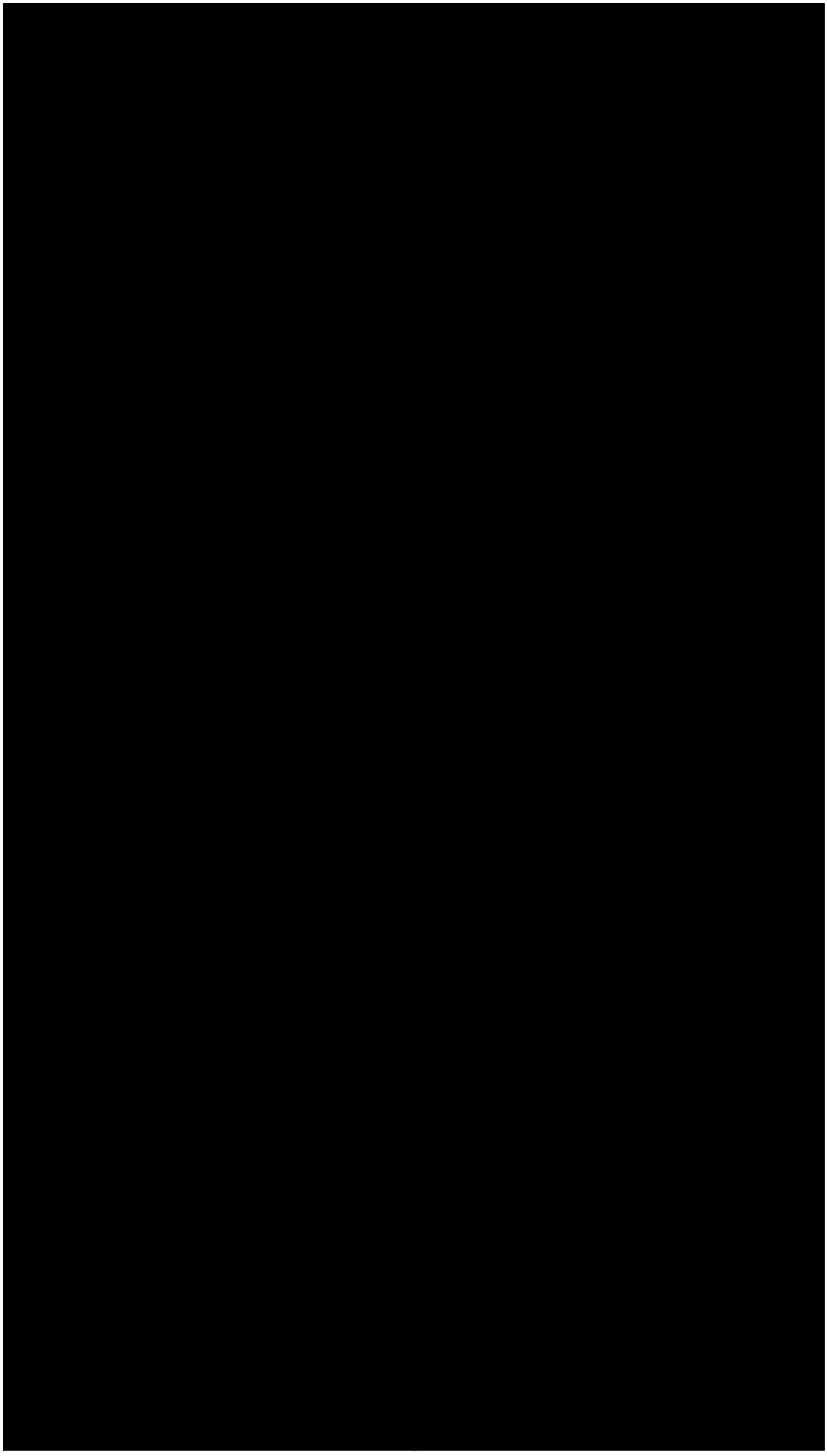


Enter units if shaded blue *Enter data if shaded blue*

	Volume
Domestically Manufactured Units	**Imported**
cubic feet of foam	40



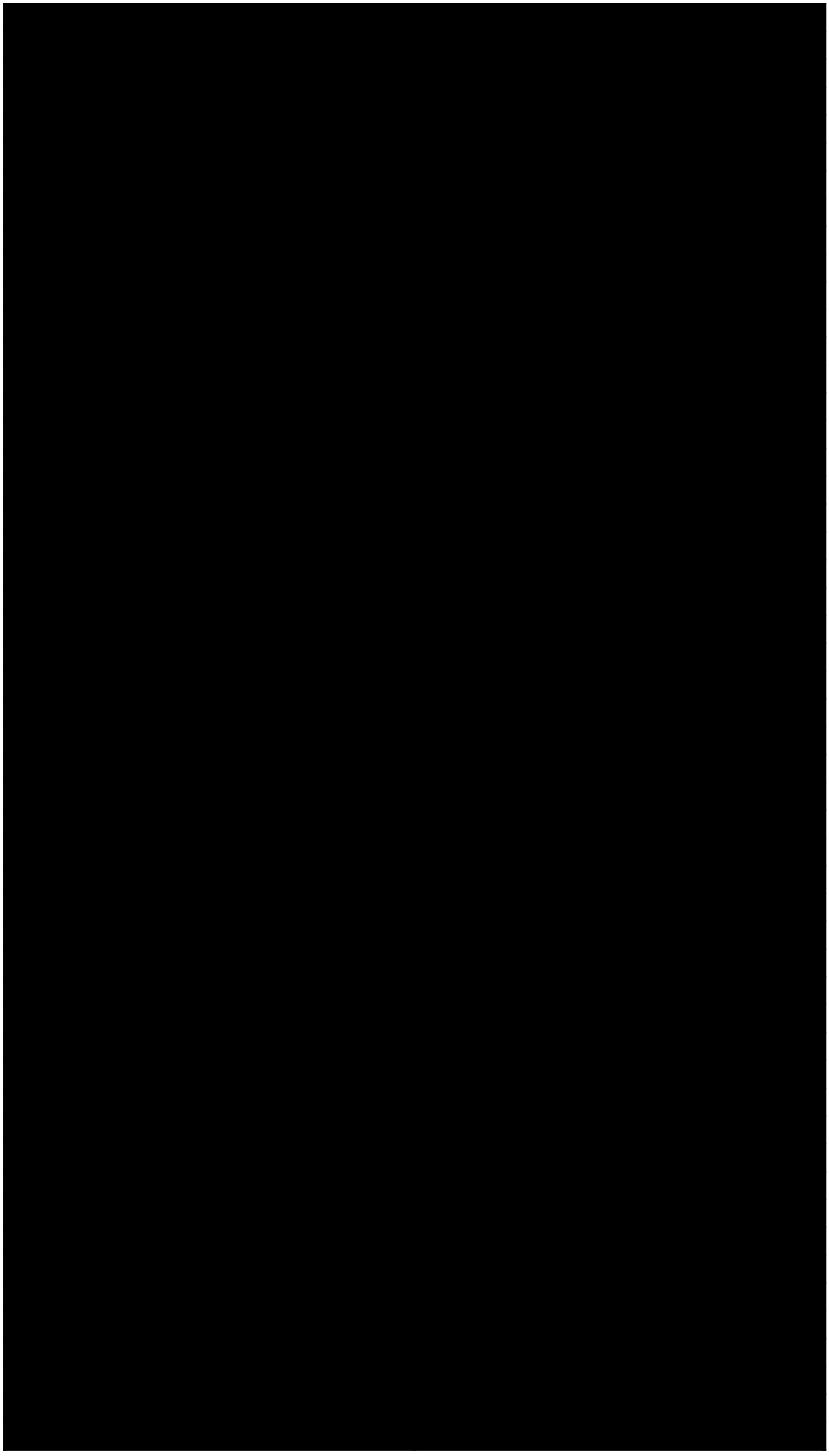


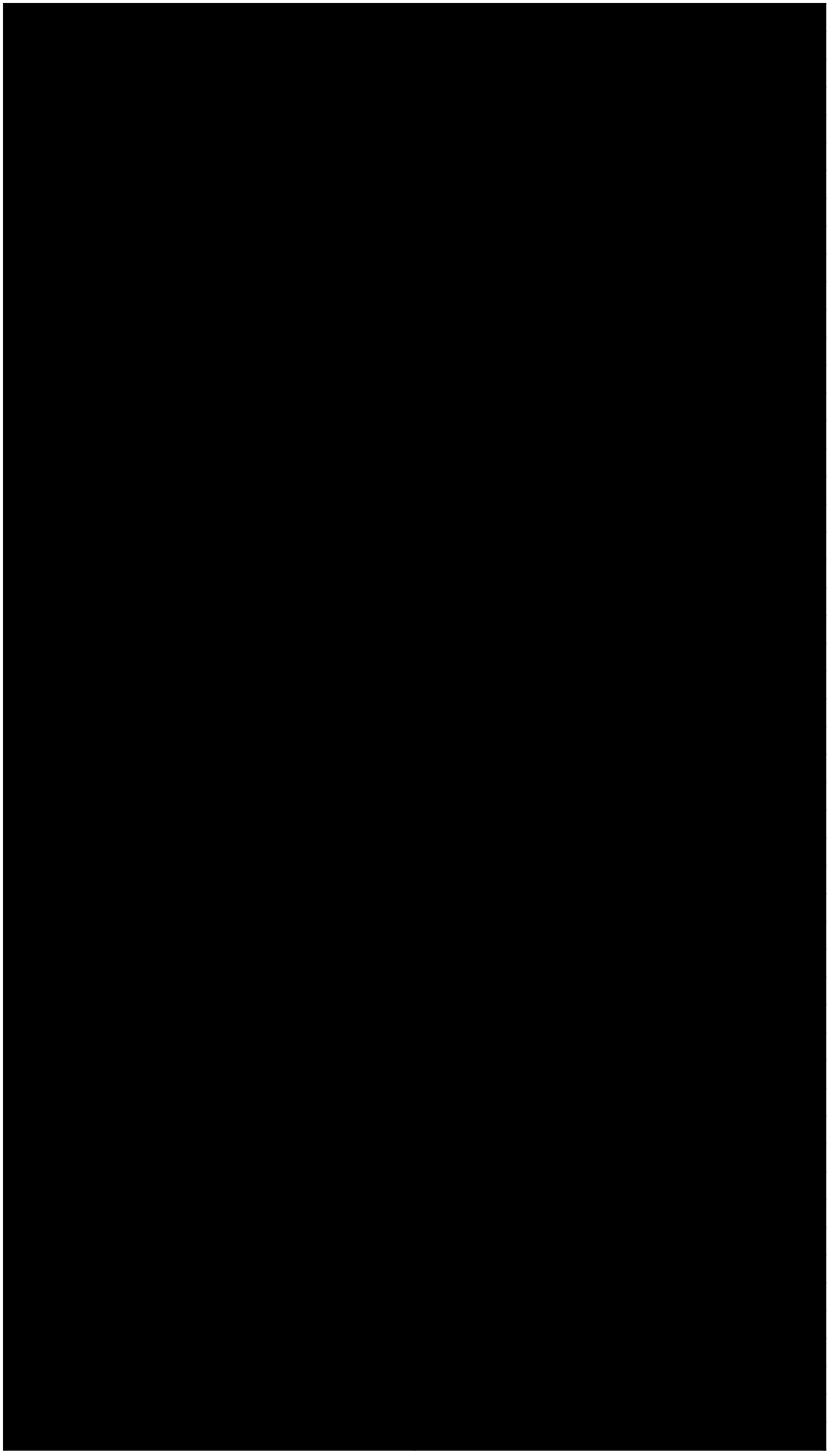


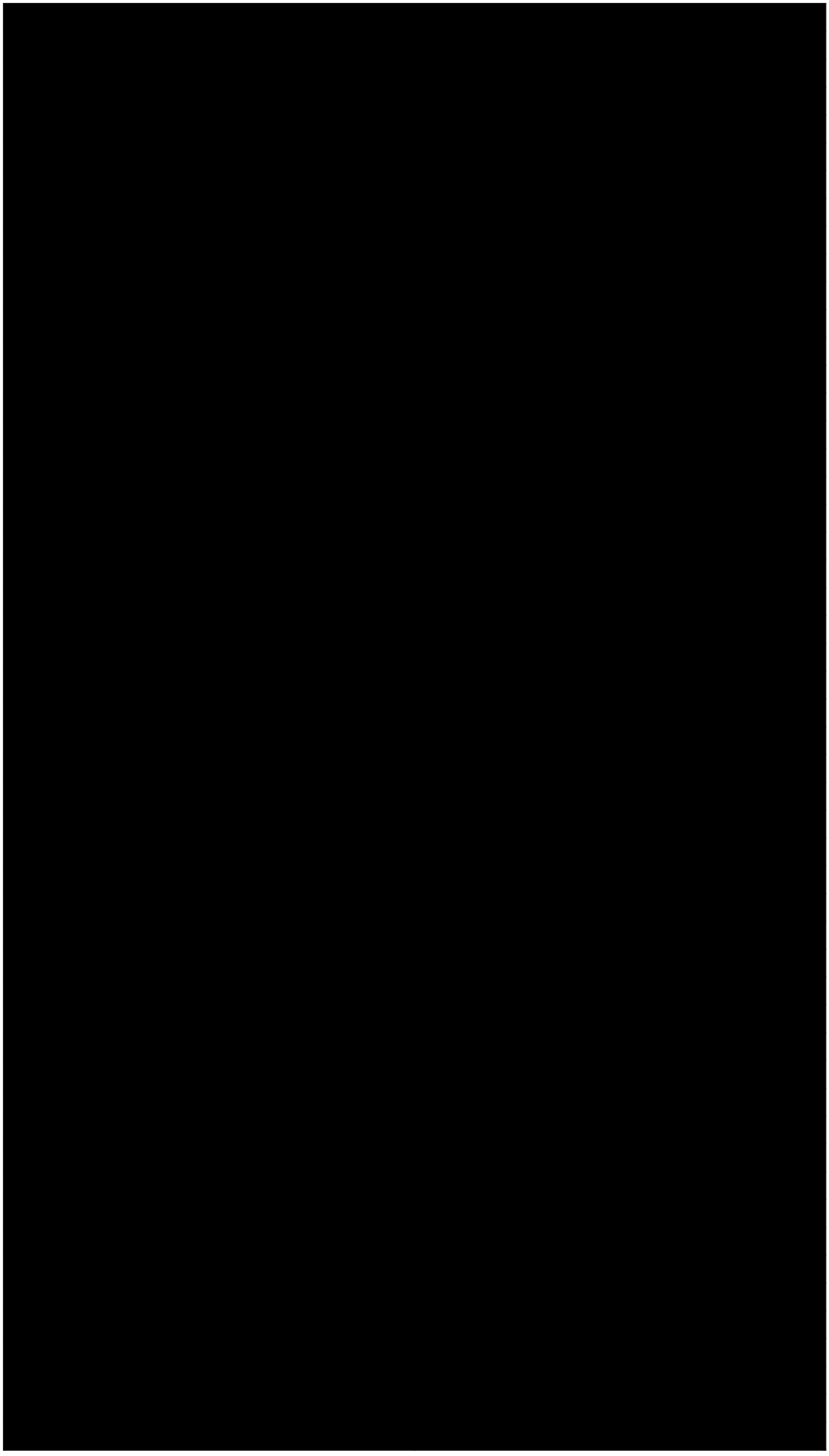
Enter units if shaded blue *Enter data if shaded blue*

of Foam

Imported Units	Exported
cubic feet of foam	80

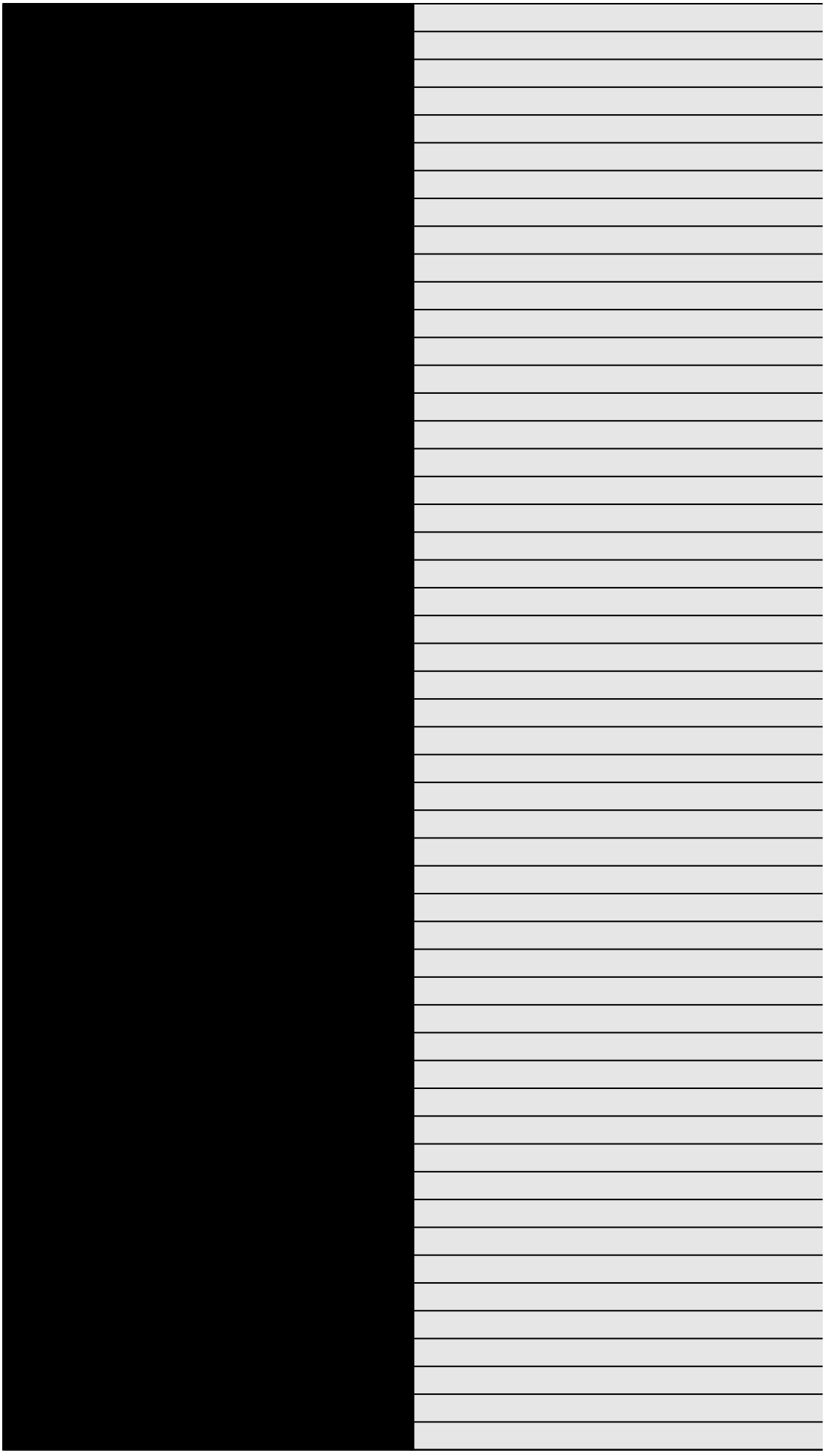


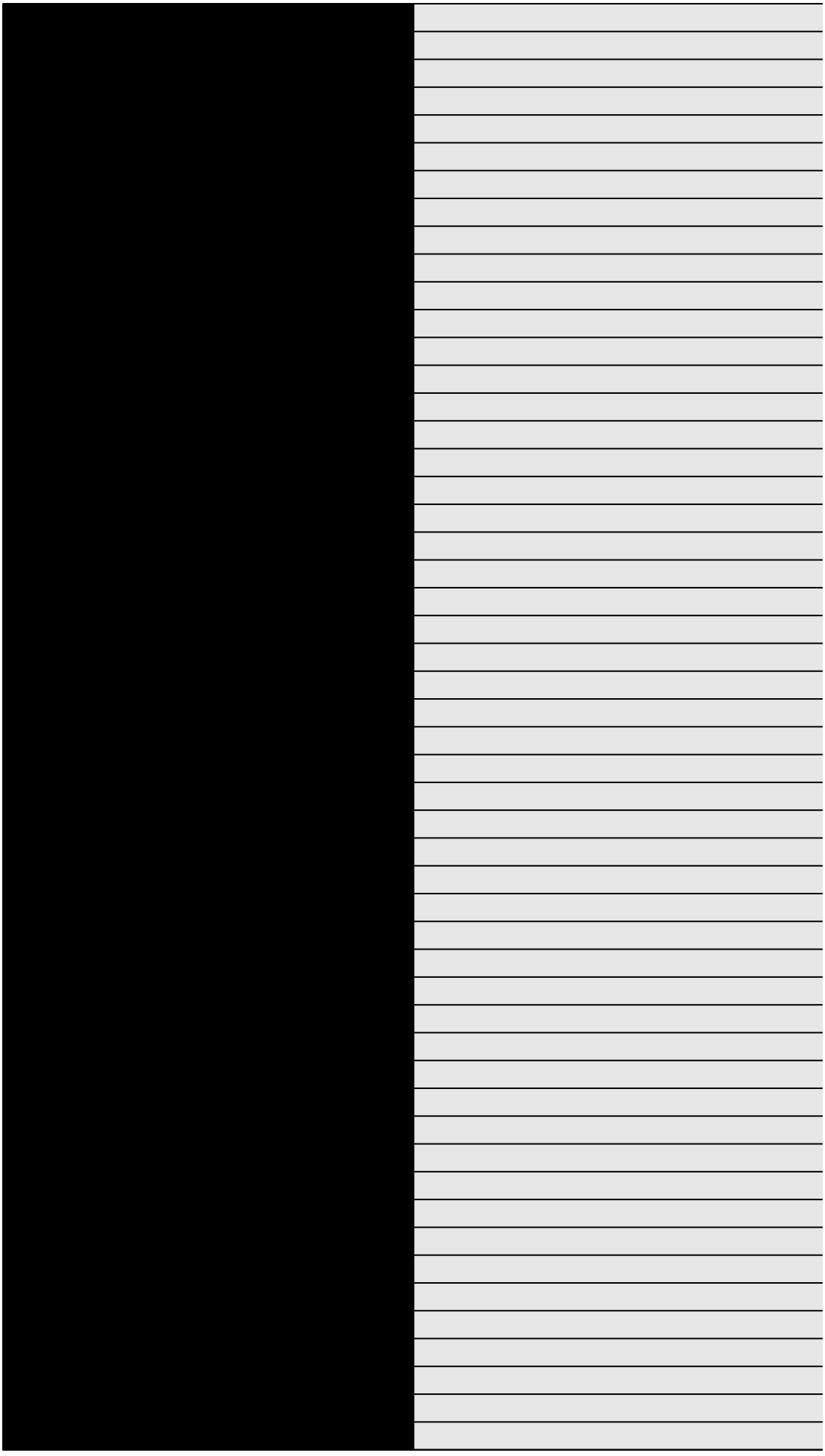


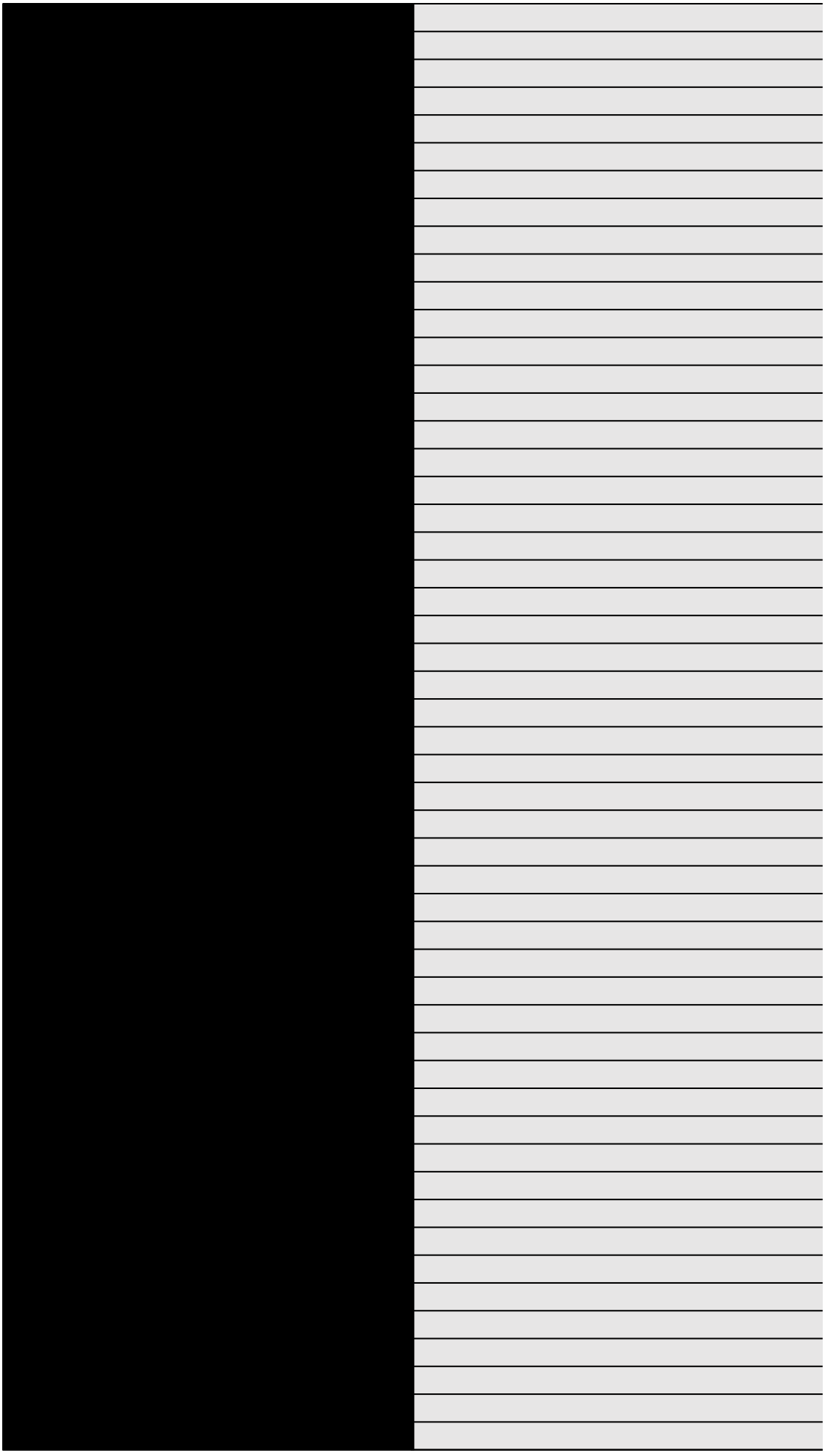


Enter units if shaded blue

Exported Units	Per Unit Mass of Each Regulated Substance or Blend Containing a Regulated Substance Contained in Closed-Cell Foam (Metric Tons)
cubic feet of foam	







Calculated - No Entry Required	*Calculated - No Entry Required*	*Calculated - No Entry Required*

Total Mass of Each Regulated Substance or Blend Containing a Regulated Substance Contained in Closed-Cell Foam, Annually		
Domestically Manufactured	**Imported**	**Exported**

Calculated - No Entry Required	*Calculated - No Entry Required*	*Calculated - No Entry Required*
Total Mass of Each Regulated Substance or Blend Containing a Regulated Substance Contained in All Products or Specified Components, Annually (Metric Tons)		
Domestically Manufactured	**Imported**	**Exported**

Phasedown of Hydrofluorocarbons: Restrictions on § 84.60 Reporting Form

Foam Sector

Required Reporting Information - Foam Sector

**Instructions: Follow the instructions for each column to enter required repo
calculated columns. If a cell is shaded black, it is not relevant for the select
"Identify of the HFC or HFC Blend Used," or for custom blends, enter the HF**

	Select from dropdown	*Select from dropdown*
	Sector	**Subsector**
1	Foam	
2	Foam	
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4	Foam	
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the Use of Certain Hydrofluorocarbons under Subsection (

rting information on foam products NOT contained in a piece of equipment. Cells tha
ed subsector chosen and should not be edited for that row. Use a different row for ea
FC or the custom blend in the "3. Other HFCs +Custom Blends" tab.

Enter Data	*Select from dropdown*
Additional Product Information [optional]	**Identity of the HFC or HFC Blend Used**

(i) of the American Innovation and Manufacturing Act c

ıt are shaded blue have either a dropdown selection or require data to be entere
ıch entry. Do not skip any rows and do not merge cells. For any HFCs that are r

Enter mass or density dependir

Mass of the Regulated Substance	Mass of Regulated Substance Units

OMB Control Number: XXXX-XXXX
Expiration Date: XX/XX/20XX

# of 2020

ed. Cells that are shaded light gray are
not available in the dropdown under

ng on the product data available

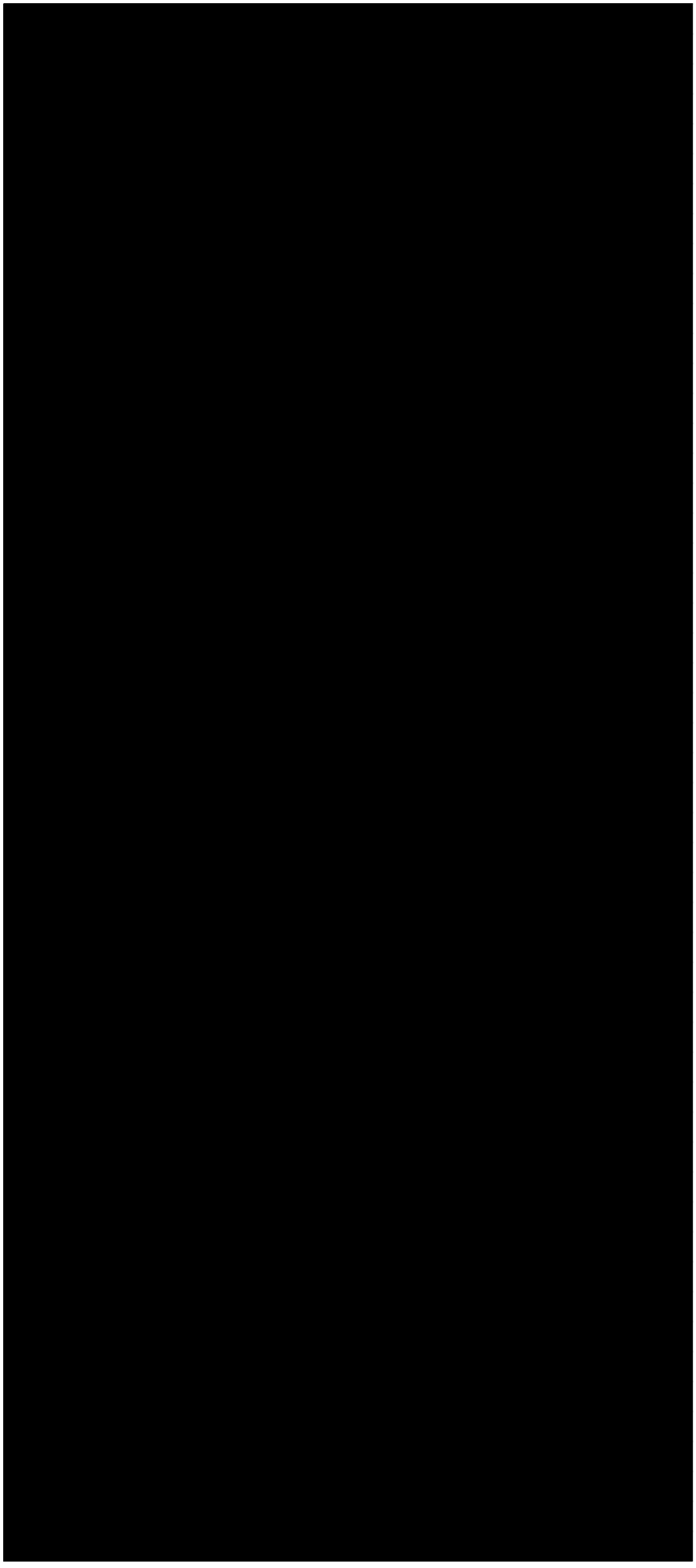
Density of the Regulated Substance	Density of the Regulated Substance Units

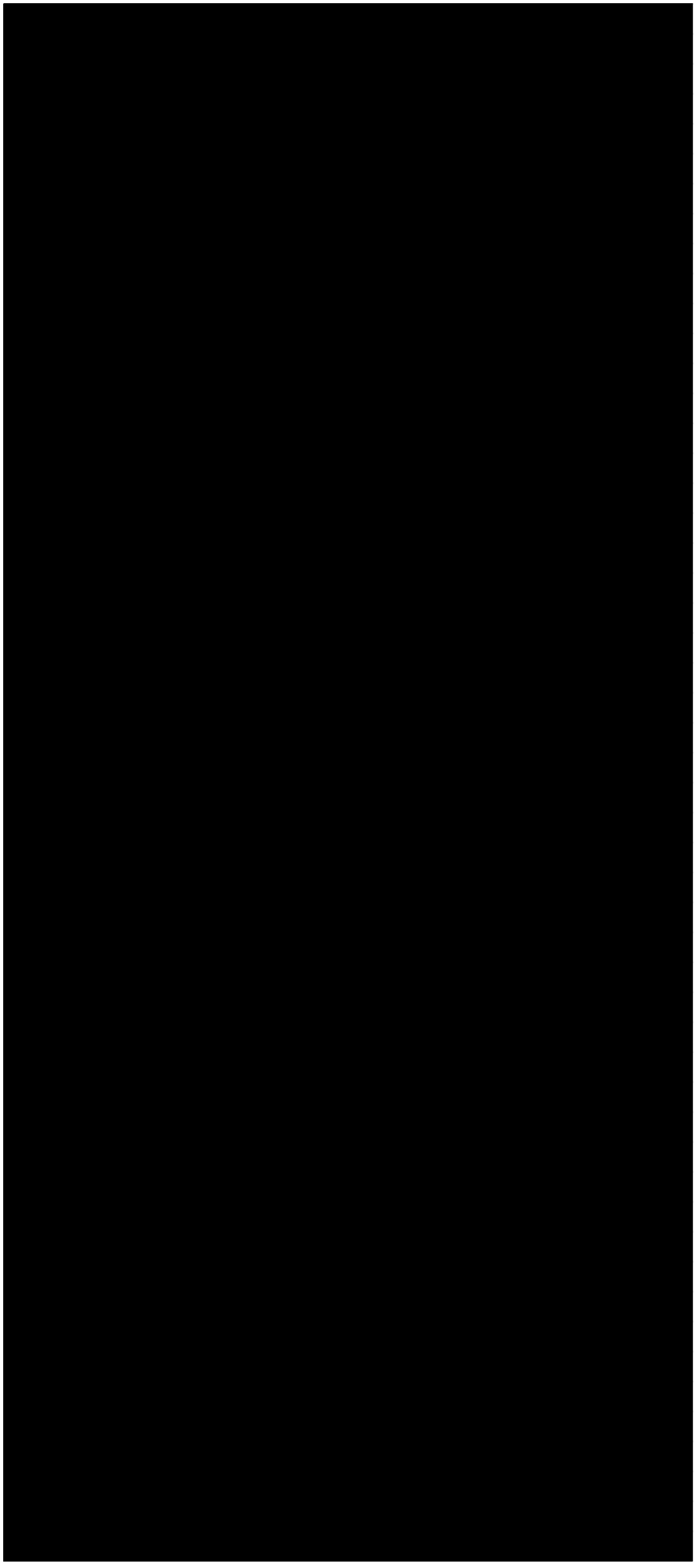
Enter data if shaded blue *Enter data if shaded blue* *Enter data if shaded blue*

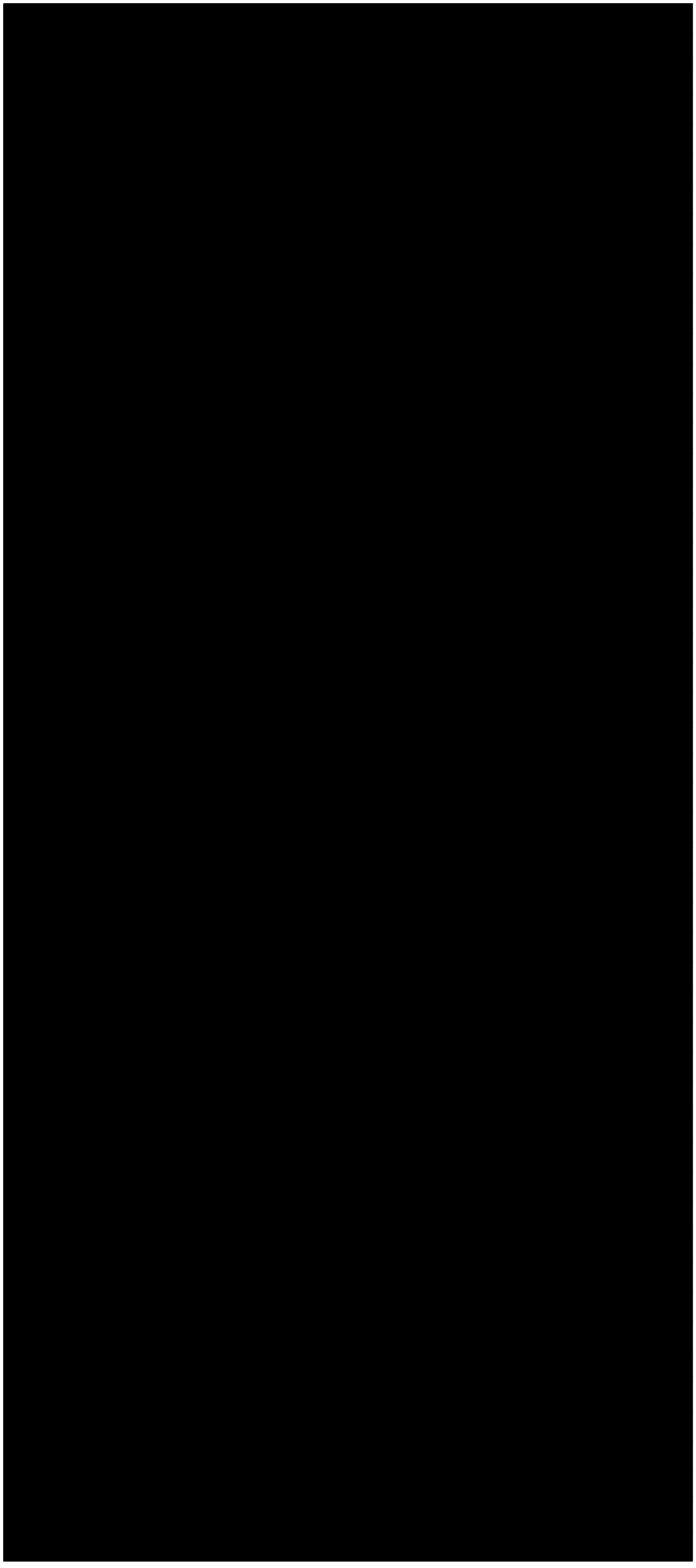
Number of Units		
Domestically Manufactured	**Imported**	**Exported**

Enter data if shaded blue *Enter units if shaded blue*

Volume of Foam	
Domestically Manufactured	**Domestically Manufactured Units**







Calculated - No Entry Required	*Calculated - No Entry Required*
Mass of Each Regulated Substance or Blend Containing a Regulated Substance Contained (Metric Tons)	**Total Mass of Each Regulat Containe**
	Domestically Manufactured

Calculated - No Entry Required *Calculated - No Entry Required*

ed Substance or Blend Containing a Regulated Substance d in All Products, Annually (Metric Tons)	
Imported	**Exported**

Phasedown of Hydrofluorocarbons: Restrictions on Innovation and Manufacturing Act of 2020
§ 84.60 Reporting Form

Aerosols Sector

Reporting Form Navigation:

Required Reporting Information - Aerosols Sector

Instructions: Follow the instructions for each column to enter required repo selection or require data to be entered. Cells that are shaded light gray are cells. For any HFCs that are not available in the dropdown under "Identify o Other HFCs + Custom Blends" tab.

	Select from dropdown	*Select from dropdown*
	Sector	**Subsector**
1	Aerosols	
2	Aerosols	
3	Aerosols	
4	Aerosols	
5	Aerosols	
6	Aerosols	
7	Aerosols	
8	Aerosols	
9	Aerosols	
10	Aerosols	
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the Use of Certain Hydrofluorocarbons under Su

**rting information on aerosol products. Cells that are shaded blue have
calculated columns. Use a different row for each entry. Do not skip any
f the HFC or HFC Blend Used," or for custom blends, enter the HFC or**

Select from dropdown	*Enter data*
Additional Subsector Information	**Additional Product Information [optional]**

OMB Control Number: XXXX-XXXX
Expiration Date: XX/XX/20XX

ubsection (i) of the American

e either a dropdown
y rows and do not merge
the custom blend in the "3.

Select from dropdown	*Enter data*	*Select from dropdown*
Identity of the HFC or HFC Blend Used	**Mass of the Regulated Substance**	**Mass of the Regulated Substance Units**

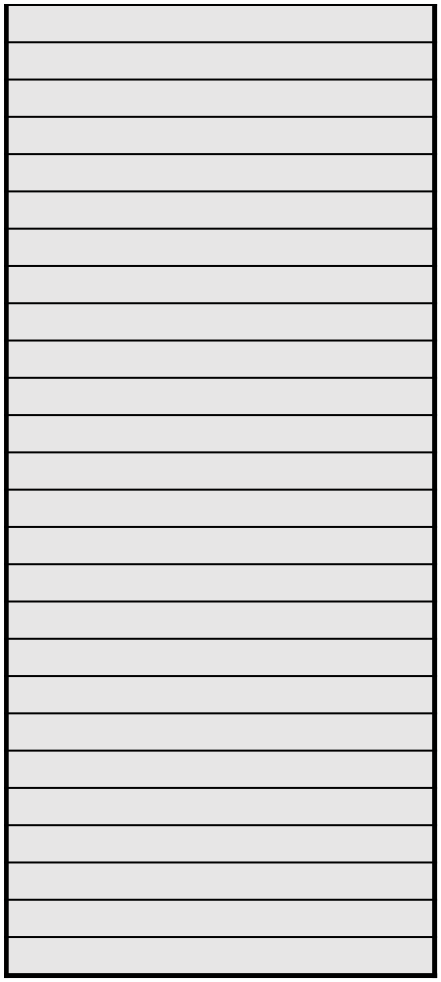
Calculated - No Entry Required *Enter data* *Enter data*

Mass of the Regulated Substance (Metric Tons)	Number of Units	
	Domestically Manufactured	Imported

Enter data	*Calculated - No Entry Required*	*Calculated - No Entry Required*
	Total Mass of Each Regulated Substance or Blend Contain Contained in All Products, Annually (Me	
Exported	**Domestically Manufactured**	**Imported**

Calculated - No Entry Required

ning a Regulated Substance tric Tons)
Exported



Phasedown of Hydrofluorocarbons: Restrictions on Innovation and Manufacturing Act of 2020
§ 84.60 Reporting Form

Other HFCs and Custom Blends

Required Reporting Information - Other HFCs and Custom I

Instructions: Follow the instructions for each column to enter required repo

For other HFCs, enter the HFC name under "Name." Then select the HFC un Compound - Please Specify." Enter the Percent as 100% for all other HFCs.

For custom blends, enter one row for each custom blend compound. For ea "Other," specify the compound in "Other Compound - Please Specify." Ente compound should sum to 100%.

Cells that are shaded blue require data to be entered. Use a different row fo

Enter Data ***Select from Dropdown***

Name	Compound
HFC-123456	Other
Custom Blend #1	Other
Custom Blend #1	HFC-134
Custom Blend #2	HFC-227ea
Custom Blend #2	HFC-23

the Use of Certain Hydrofluorocarbons under Subsect

Blends

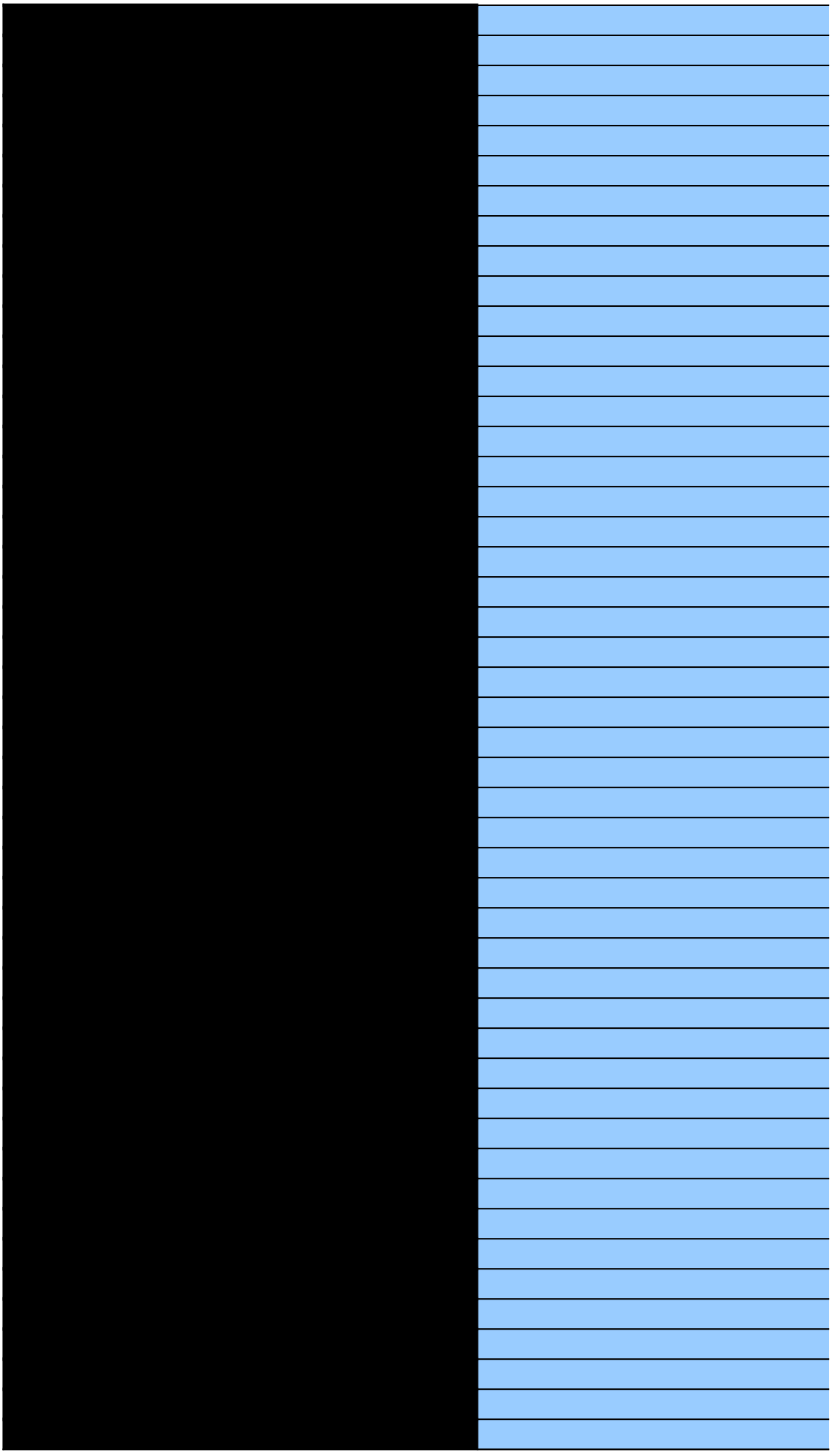
rting information.

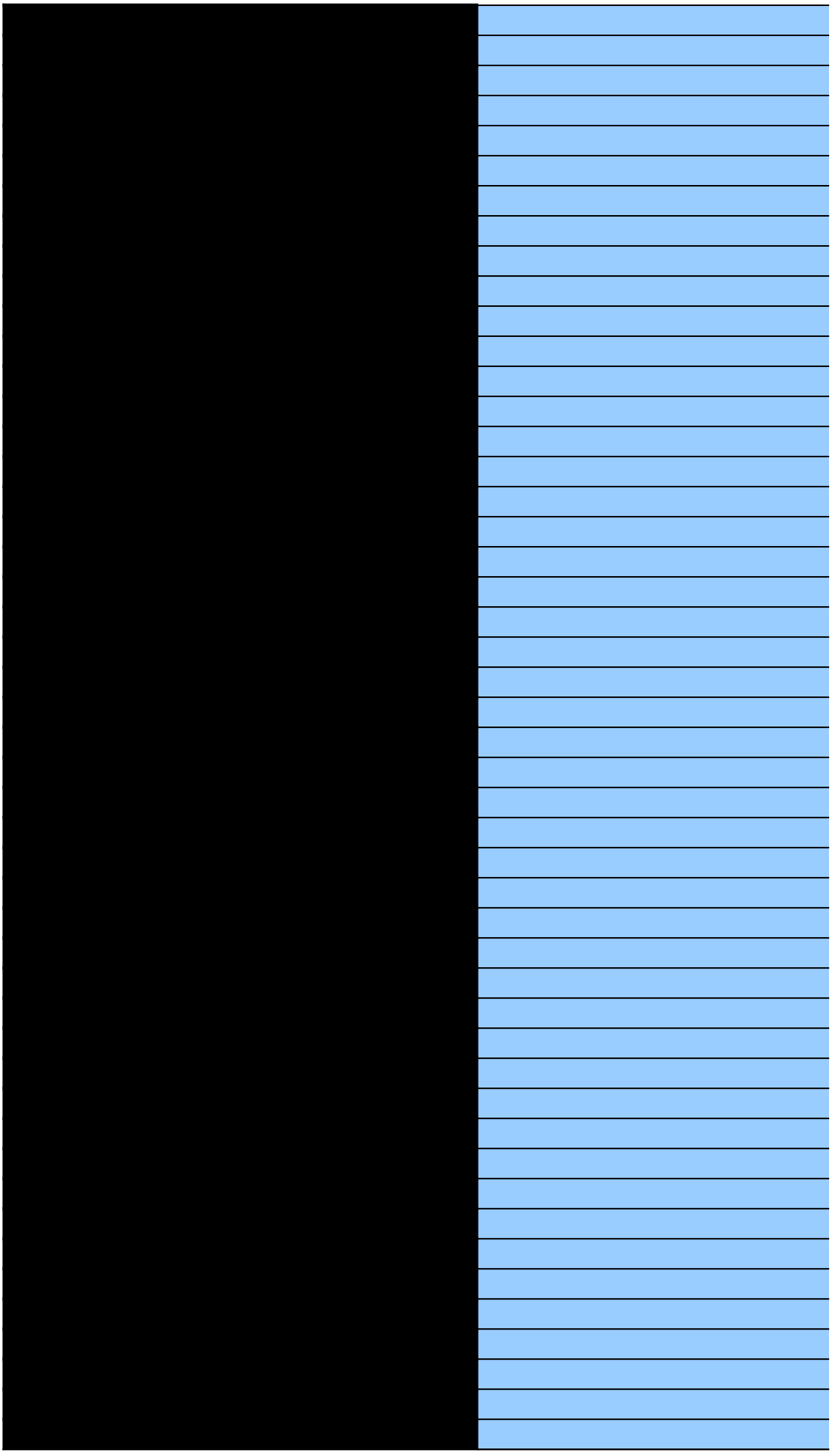
der "Compound" or select "Other" if the HFC is not available. If selecting "Othe

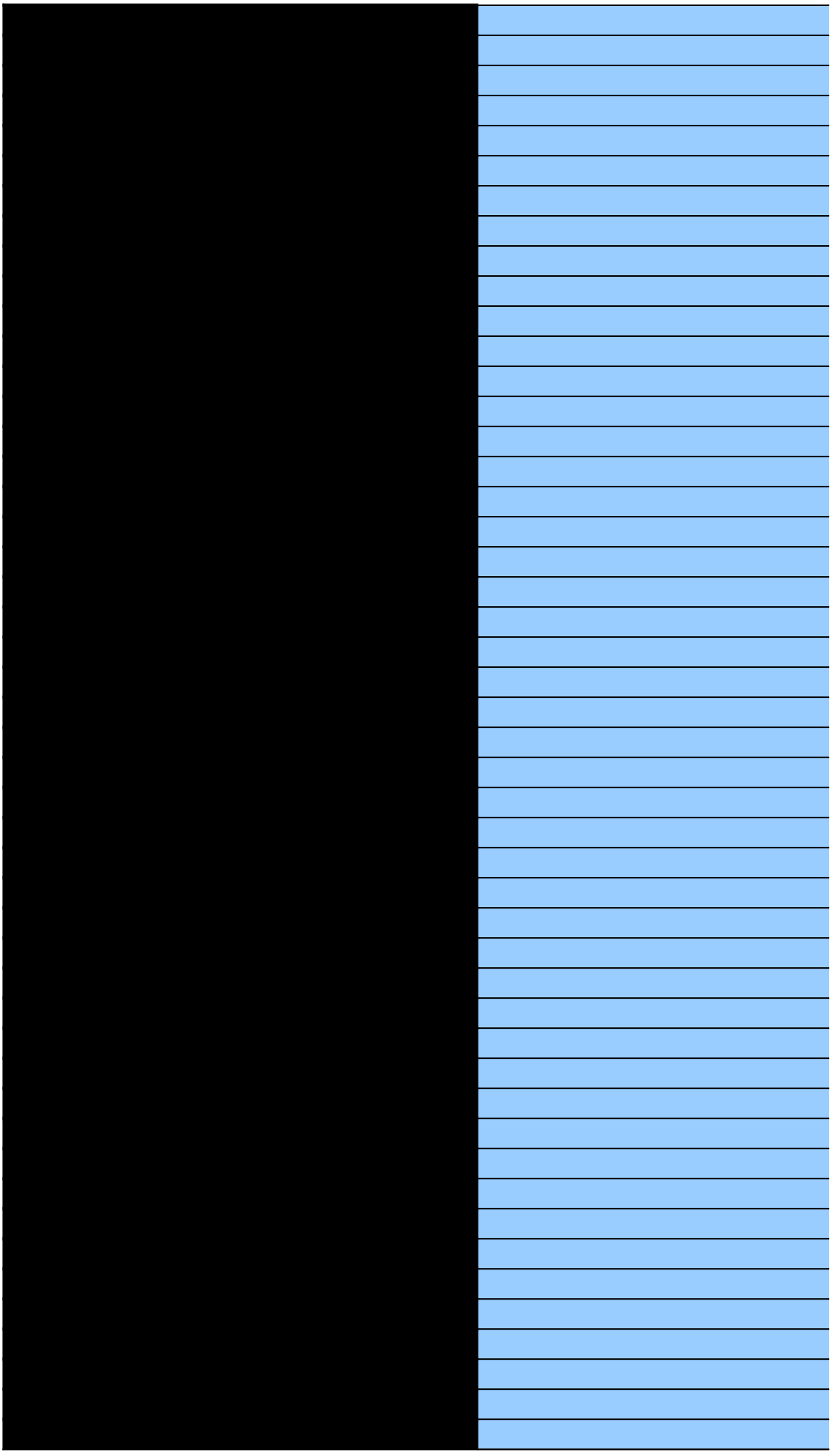
ch row enter the blend name under "Name." Select the compound under "Com
r the compound percent composition under "Percent." For each unique custon

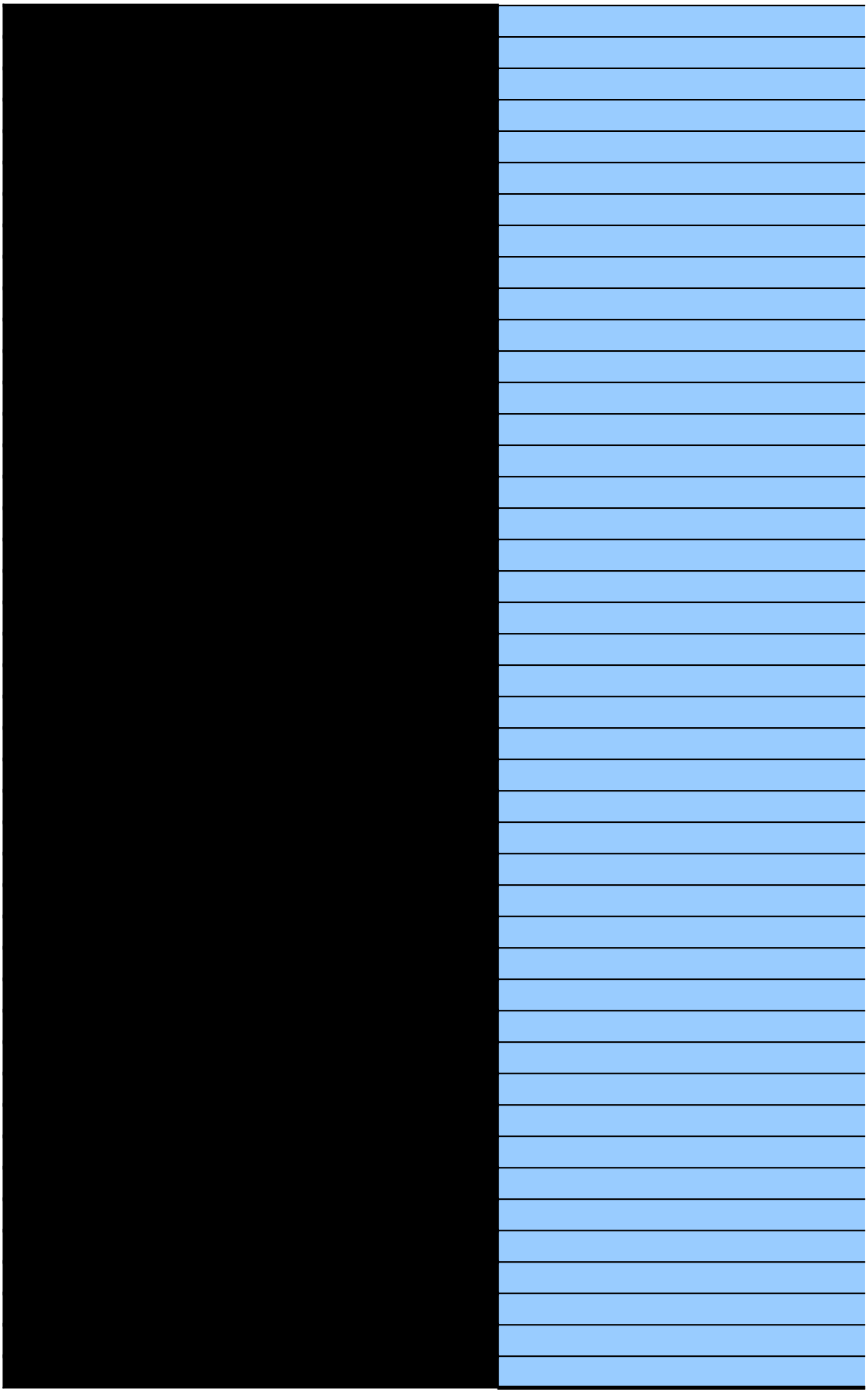
r each entry. Do not skip any rows and do not merge cells.

Enter Data	*Enter Data*
Other Compound - Please Specify	**Percent**
HFC-123456	100%
Chemical A	50%
[redacted]	50%
	50%
	50%









OMB Control Number: XXXX-XXXX
Expiration Date: XX/XX/20XX

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er," enter the HFC name under "Other

pound," or select "Other." If selecting
n blend, the percents for each

Calculated - No Entry Required

Validation
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Sums to 100%

Calculated - No Entry Required *Calculated - No Entry Required*

Name	Total Percent
#NAME?	100%
#NAME?	#NAME?
#NAME?	#NAME?
#NAME?	#NAME?

	Sectors and Sub-Sectors	
Sectors	Aerosols	Foam
Aerosols	Consumer aerosol products	
		Extruded polystyrene (XPS) boardstock and billet
Foam	Technical aerosol products	
		Flexible polyurethane
RACHP		
		Integral skin polyurethane
		Phenolic insulation board and bunstock
		Polyolefin

Polystyrene extruded sheet

Rigid polyurethane and polyisocyanurate laminated boardstock

Rigid polyurethane appliance foam

Rigid polyurethane commercial refrigeration and sandwich panels*c*

Rigid polyurethane low pressure, two-component spray foam

Rigid polyurethane marine flotation foam

Rigid polyurethane slabstock and other

Rigid polyurethane high-pressure two-component spray foam

Rigid polyurethane one-component foam sealants

RACHP	AerosolRange1 Technical aeroso	AerosolRange2 Consumer aerosol products
Industrial process refrigeration (not using chillers)	Cleaning products for removal of grease, flux and other soils from electrical equipment or electronics	Consumer Aerosol
Residential and light commercial air conditioning and heat pumps	Refrigerant flushes	
Chillers (as a stand-alone product)	Products for sensitivity testing of smoke detectors	
Self-contained automatic commercial ice machines	Lubricants and freeze sprays for electrical equipment or electronics	
Refrigerated transport	Sprays for aircraft maintenance	

Chillers	Sprays containing corrosion preventive compounds used in the maintenance of aircraft, electrical equipment or electronics, or military equipment
Motor vehicle air conditioning	Pesticides for use near electrical wires or in aircraft, in total release insecticide foggers, or in certified organic use pesticides for which EPA has specifically disallowed all other lower-GWP propellants
Retail food - refrigerated food processing and dispensing equipment	Mold release agents and mold cleaners
Cold storage warehouses	Lubricants and cleaners for spinnerets for synthetic fabrics

Retail food - supermarkets	Duster sprays specifically for removal of dust from photographic negatives, semiconductor chips, specimens under electron microscopes, and energized electrical equipment
Retail food - remote condensing units	Adhesives and sealants in large canisters
Residential dehumidifiers	Document preservation sprays
Household refrigerators and freezers	Wound care sprays
Vending machines	Topical coolant sprays for pain relief
Data centers, computer room air conditioning, and information technology equipment cooling	Products for removing bandage adhesives from skin
Retail food - refrigeration stand-alone units	
Ice rinks	
Retail food - remote refrigerated food processing and dispensing equipment	
Remote automatic commercial ice machines	

Products	Y/N Dropdown
500 g of refrigerant or less and outside scope of UL 621, edition 7	Yes
Batch type: harvest rate <=1,000 lb ice per 24 hours	No
Batch type: harvest rate above 1,000 lb ice per 24 hours	
Comfort cooling	
Continuous type: harvest rate <=1,200 lb ice per 24 hours	

Continuous type: harvest rate above 1,200 lb ice per 24 hours

Data centers, computer room air conditioning, and information technology equipment cooling

High temperature side of cascade system

High temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)

High temperature side of cascade systems

High temperature side of cascade systems and temperature of the refrigerant entering the evaporator above -30 °C (-22 °F)

Household refrigerators and freezers

Ice cream makers within the scope of UL 621, edition 7

Ice rinks

Industrial process refrigeration with exiting fluid above -30 °C (-22 °F)

Industrial process refrigeration with exiting fluid below -50 °C (-58 °F)

Industrial process refrigeration with exiting fluid below -50 °C (-58 °F)
Industrial process refrigeration with exiting fluid greater than or equal to -50 °C (-58 °F) and less than -30 °C (-22 °F)

Industrial process refrigeration with exiting fluid equal to or above -30 °C (-22 °F)

Industrial process refrigeration with exiting fluid from -50 °C (-58 °F) to -30 °C (-22 °F)

Intermodal containers with exiting fluid temperature from a chiller below -50 °C (-58 °F)

Intermodal containers with exiting fluid temperature from a chiller equal to or above -50 °C (-58 °F)

Intermodal containers with refrigerant temperature entering the evaporator below -50 °C (-58 °F)

Intermodal containers with refrigerant temperature entering the evaporator equal to or above -50 °C (-58 °F)

Light-duty passenger vehicles

Listed nonroad vehicles (agricultural tractors greater than 40 horsepower; self-propelled agricultural machinery; compact equipment; construction, forestry, and mining equipment; and commercial utility vehicles)

Marine systems

Marine—self-contained products

Medium-duty passenger vehicles, heavy-duty pick-up trucks, complete heavy-duty vans

More than 500 g of refrigerant and outside scope of UL 621, edition 7

Remote automatic commercial ice machines

Residential and light commercial air conditioning and heat pump systems (e.g., mini-splits, unitary systems)

Residential dehumidifiers

Retail food - refrigeration stand-alone units

Retail food - remote refrigerated food processing and dispensing equipment

Road systems

Road—self-contained products

Stationary residential and light commercial air conditioning and heat pumps (e.g., window units, portable room air conditioning)

Temperature of the refrigerant entering the evaporator below -50 °C (-58 °F)

Temperature of the refrigerant entering the evaporator from -50 °C (-58 °F) to -30 °C (-22 °F)

Variable refrigerant flow systems

Vending machines

With 200 or more lb refrigerant charge excluding high temperature side of cascade system and temperature of the refrigerant entering the evaporator above -30 °C (-22 °F)

With 200 or more lb refrigerant charge excluding high temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)

With 200 or more lb refrigerant charge, excluding high temperature side of cascade system

With less than 200 lb refrigerant charge

With less than 200 lb refrigerant charge and temperature of the refrigerant entering the evaporator above -30 °C (-22 °F)

With less than 200 lb refrigerant charge and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)

With refrigerant entering the evaporator below -50 °C (-58 °F)

With refrigerant entering the evaporator equal to or above -50 °C (-58 °F) and less than -30 °C (-22 °F)

RACHP Blends

HFC-134a

HFC-152a

HFC-227ea

HFC-23

HFC-236fa

Foam Blends

HFC-134a

HFC-245fa

HFC-152a

Blends of HFC-152a / Saturated Light Hydrocarbons (C_{3}-C_{6})

HFC-227ea

Aerosol Blends

HFC-134a

HFC-152a

HFC-227ea

HFC-43-10mee

Custom Blend #1

	Blends of 10 to 90 percent HFO-1234ze(E) by weight and the remainder HFC-152a	Custom Blend #1
HFC-245fa		
	Blends of 10 to 99 percent by weight HFO−1336mzz(Z) and the remainder HFC−152a	Custom Blend #2
HFC-32		
	Blends of zero to 100 percent HFO-1234ze(E), zero to 70 percent methyl formate, zero to 60 percent HFC-152a, zero to 60 percent CO2, and zero to 60 percent water	Custom Blend #2
HFC-43-10mee		
	HFC-365mfc	HFC-365mfc
R-404A		

	Custom Blend #1	Other
R-407C		
	Custom Blend #1	
R-410A		
	Custom Blend #2	
R-448A		
	Custom Blend #2	
R-449A		
	Other	
R-449B		
R-450A		
R-452A		
R-452B		
R-454A		
R-454B		
R-454C		
R-455A		

R-457A

R-471A

HFC-143a

R-507A

R-508B
R-513A

R-513B

R-515B

R-516A

Other

HFC-123456
Custom Blend #1

Custom Blend #1

Custom Blend #2
Custom Blend #2

R-407A

R-407F

R-407H

R-407C
R-452C

R-452A

R-452B

Product or Specified Comp	Factor converting kg to metric tons	Factor convertin g lb to kg
Product	0.001	0.453592

Specified Component

Factor converting oz to	Units
0.02834952	kilograms (kg)
	pounds (lb)
	ounces (oz)
	Metric Tons (MT)
	kg of regulated substance per cubic foot

lb of regulated substance per cubic foot

cubic feet of foam

RACHPRange1 Residential and light commercial air conditioning and heat pumps	RACHPRange2 Residential dehumidifiers
Residential and light commercial air conditioning and heat pump products (e.g., window units, portable room air conditioning)	Residential dehumidifiers
Residential and light commercial air conditioning and heat pump systems (e.g., mini-splits, unitary systems)	
Residential and light commercial air conditioning and heat pump systems (e.g., mini-splits, unitary systems)	
Variable refrigerant flow systems	

RACHPRange3 Household refrigerators and freezers	RACHPRange4 Vending machines	RACHPRange5 Motor vehicle air conditioning
Household refrigerators and freezers	Vending machines	Light-duty passenger vehicles
		Medium-duty passenger vehicles, heavy-duty pick-up trucks, complete heavy-duty vans
		Listed nonroad vehicles (agricultural tractors greater than 40 horsepower; self-propelled agricultural machinery; compact equipment; construction, forestry, and mining equipment; and commercial utility vehicles)

RACHPRange6 Chillers (as a stand-alone product)
Industrial process refrigeration with exiting fluid below -50 °C (-58 °F)
Industrial process refrigeration with exiting fluid greater than or equal to -50 °C (-58 °F) and less than -30 °C (-22 °F)
Industrial process refrigeration with exiting fluid equal to or above -30 °C (-22 °F)
Comfort cooling
Ice rinks

RACHPRange7 Data centers, computer room air conditioning, and information technology equipment cooling
Data centers, computer room air conditioning, and information technology equipment cooling

RACHPRange8 Industrial process refrigeration (not using chillers)	RACHPRange9 Retail food - refrigeration stand-alone units
With refrigerant entering the evaporator below -50 °C (-58 °F)	Retail food - refrigeration stand-alone units
With refrigerant entering the evaporator equal to or above -50 °C (-58 °F) and less than -30 °C (-22 °F)	
High temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)	
With less than 200 lb refrigerant charge and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)	
With 200 or more lb refrigerant charge excluding high temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -30 °C (-22 °F)	

RACHPRange10 Retail food - refrigerated food processing and dispensing equipment
500 g of refrigerant or less and outside scope of UL 621, edition 7
More than 500 g of refrigerant and outside scope of UL 621, edition 7
Ice cream makers within the scope of UL 621, edition 7

RACHPRange11 Self-contained automatic commercial ice machines	RACHPRange12 Cold storage warehouses	RACHPRange13 Refrigerated transport
Batch type: harvest rate <=1,000 lb ice per 24 hours	With 200 or more lb refrigerant charge, excluding high temperature side of cascade system	Intermodal containers with refrigerant temperature entering the evaporator below -50 °C (-58 °F)
Continuous type: harvest rate <=1,200 lb ice per 24 hours	With less than 200 lb refrigerant charge	Intermodal containers with refrigerant temperature entering the evaporator equal to or above -50 °C (-58 °F)
Batch type: harvest rate above 1,000 lb ice per 24 hours	High temperature side of cascade system	Road—self-contained products
Continuous type: harvest rate above 1,200 lb ice per 24 hours		Marine—self-contained products

RACHPRange15 Chillers	RACHPRange16 Ice rinks	RACHPRange17 Retail food - supermarkets
Industrial process refrigera	Ice rinks	With 200 or more lb refrigera
Industrial process refrigeration with exiting fluid from -50 °C (-58 °F) to -30 °C (-22 °F)		With less than 200 lb refriger
Industrial process refrigeration with exiting fluid above		High temperature side of cas
Comfort cooling		

RACHPRange18
Retail food - remote condensing units

With 200 or more lb refrigerant charge,

With less than 200 lb refrigerant charge

High temperature side of cascade system

RACHPRange19 Retail food - remote refrigerated food processing and dispensing equipment
Retail food - remote refrigerated food processing and dispensing equipment

RACHPRange20 Remote automatic commercial ice machines
Remote automatic commercial ice machines

All HFCs

HFC-134a

HFC-152a

HFC-227ea

HFC-23

HFC-236fa

HFC-245fa

HFC-32

HFC-43-10mee

R-404A

R-407C

R-410A

R-448A

R-449A

R-449B

R-450A

R-452A

R-452B

R-454A

R-454B

R-454C

R-455A

R-457A

R-471A

R-507
R-507A

R-508B
R-513A
R-513B

R-515B

R-516A
HFC-227ea

HFC-143a
HFC-152a
Blends of HFC-152a / Saturated Li

Blends of 10 to 90 percent HFO-1
Blends of 10 to 90 percent HFO-1
Blends of 10 to 99 percent by wei

Blends of zero to 100 percent HFC

HFC-134a

HFC-152a
Other

ght Hydrocarbons (C3-C6)

234ze(E) by weight and the remainder HCFO-1233zd(E)
234ze(E) by weight and the remainder HFC-152a
ght HFO–1336mzz(Z) and the remainder HFC–152a

O-1234ze(E), zero to 70 percent methyl formate, zero to 60 percent HFC-152a, zero to 60 percent CO

2, and zero to 60 percent water