

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 manufactures in § 84.54 that uses or is intended to use a regulated substance or blend containing 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 attested. Reporting requirements are providing a statement of certification that the data on regulated substances, or blends containing regulated substances, that meet the requirements of 40 CFR 84.58

Date of Submittal:	
Signature:	

This collection of information is approved by OMB under the Paperwork Reduction Project (2821T). Responses to this collection of information are voluntary. An agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. The public burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering the data, reviewing the collection of information, and reviewing the collection of information. Send comments on the Agency's need for this collection of information, including suggestions for minimizing respondent burden, to the Office of Management and Budget, Paperwork Reduction Project (2821T), 1200 Pennsylvania Avenue, NW, Washington, DC 20503. Do not send the completed form to this address.

EPA Form # 5900-709

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
ita they provide are accurate and certifying that the products use
t the requirements of § 84.54, and are labeled in accordance with §

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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: Restriction of 2020

§ 84.60 Reporting Form

Refrigeration, Air Conditioning, and Heat Pumps

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

Required Reporting Information - RACHP Sector

Instructions: Follow the instructions for each column to enter a dropdown selection or require data to be entered. Cells that are shaded light blue indicate that data is required to be entered under "Identify of the HFC or HFC Blend Used," or for custom blends.

Select from dropdown

	Sector	Product or Specified Component
1	RACHP	
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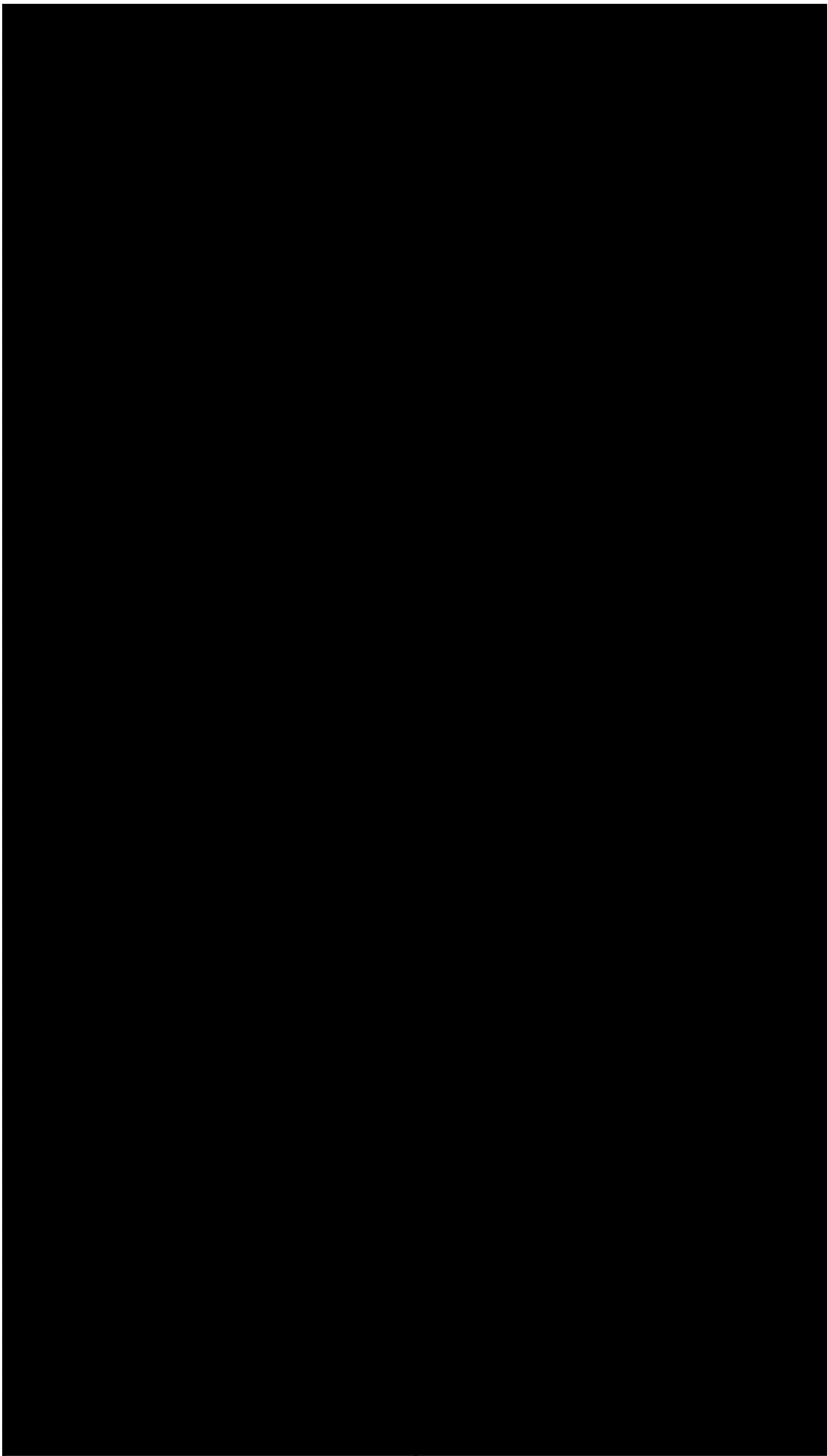
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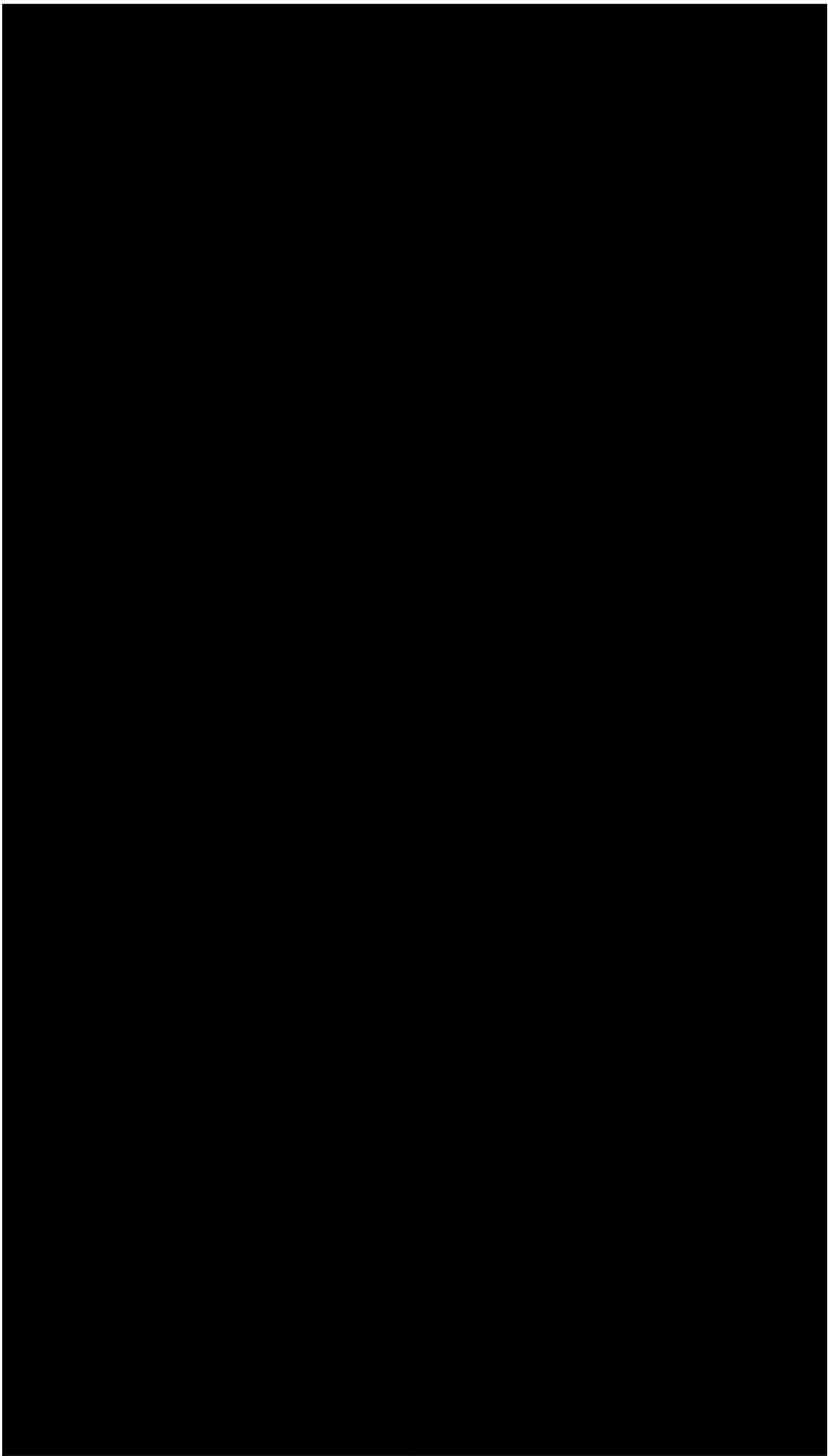
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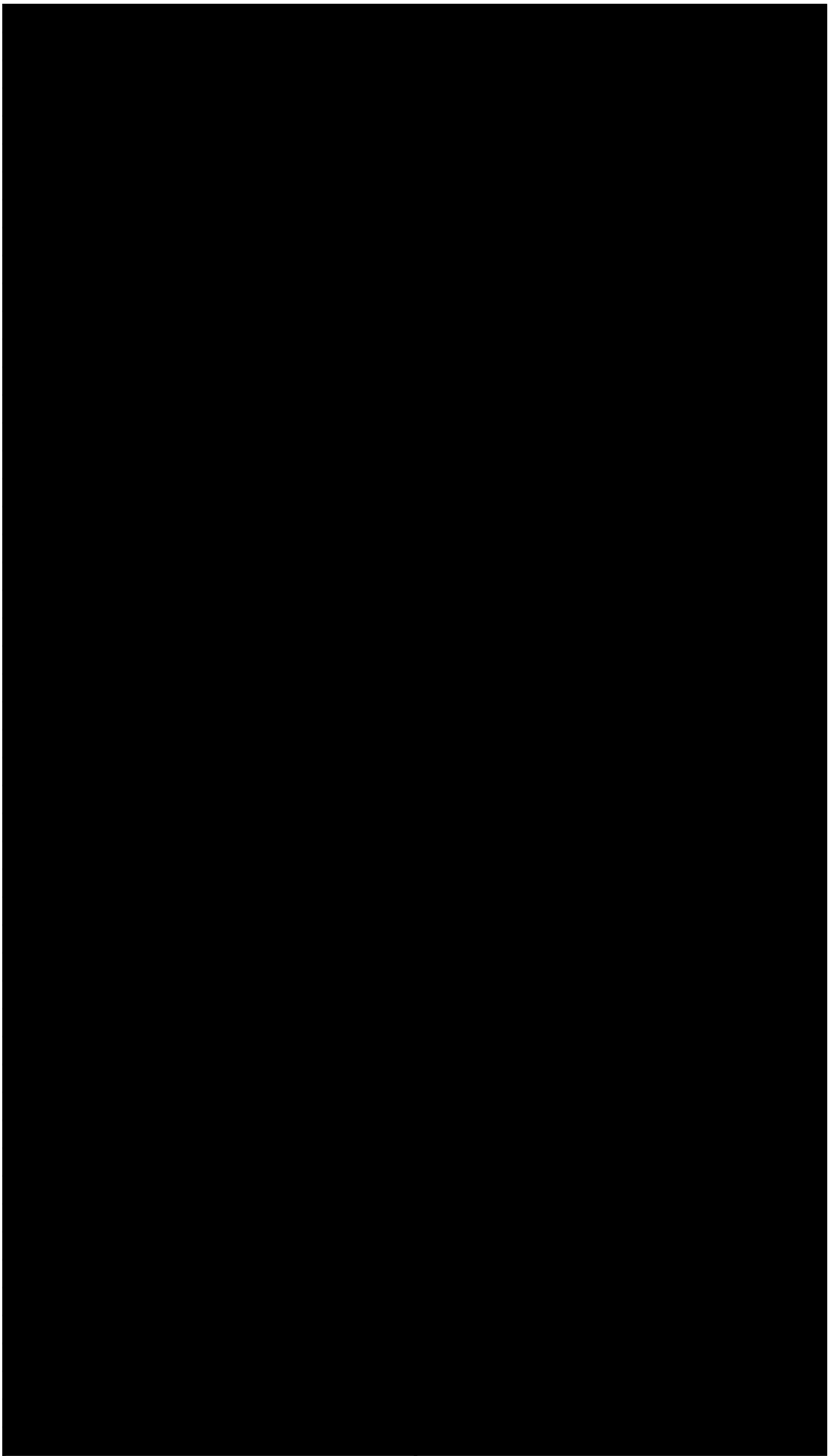


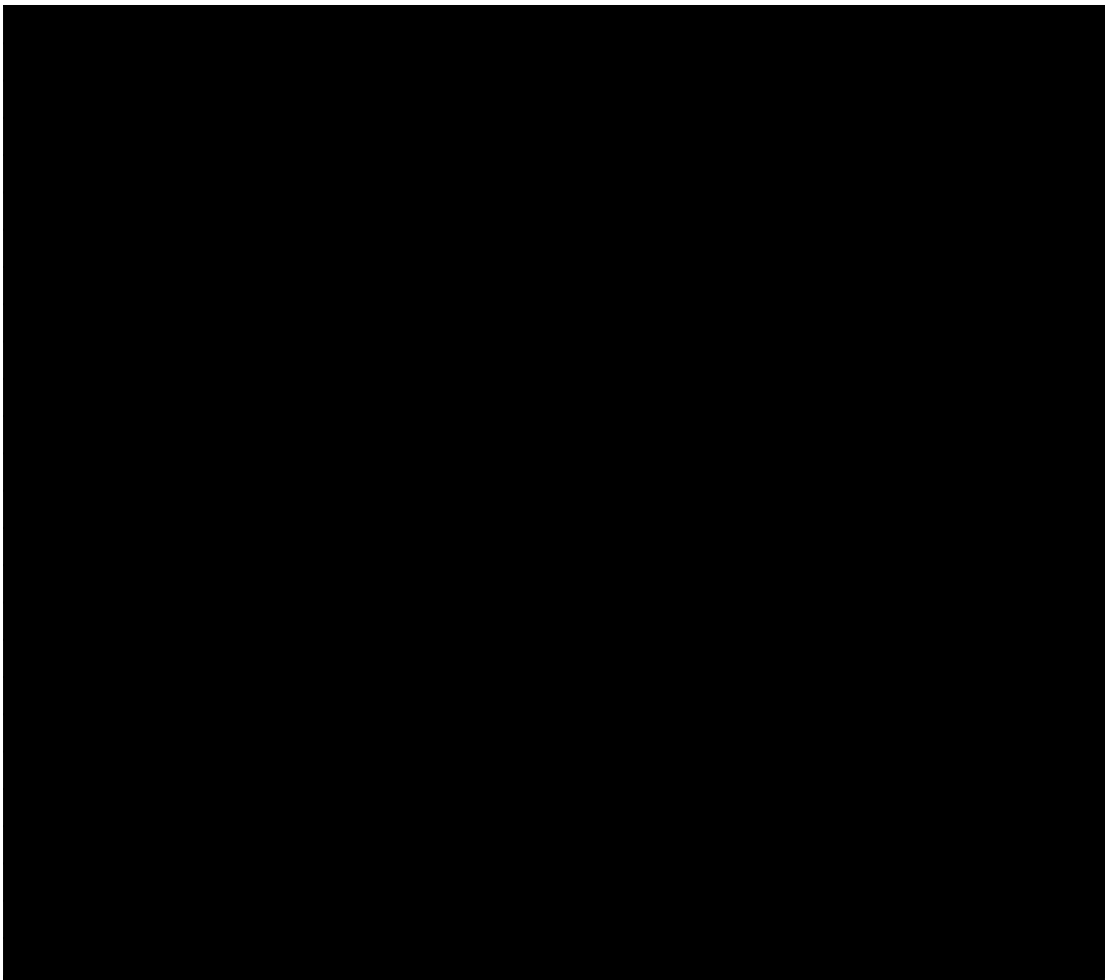
Select from dropdown

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





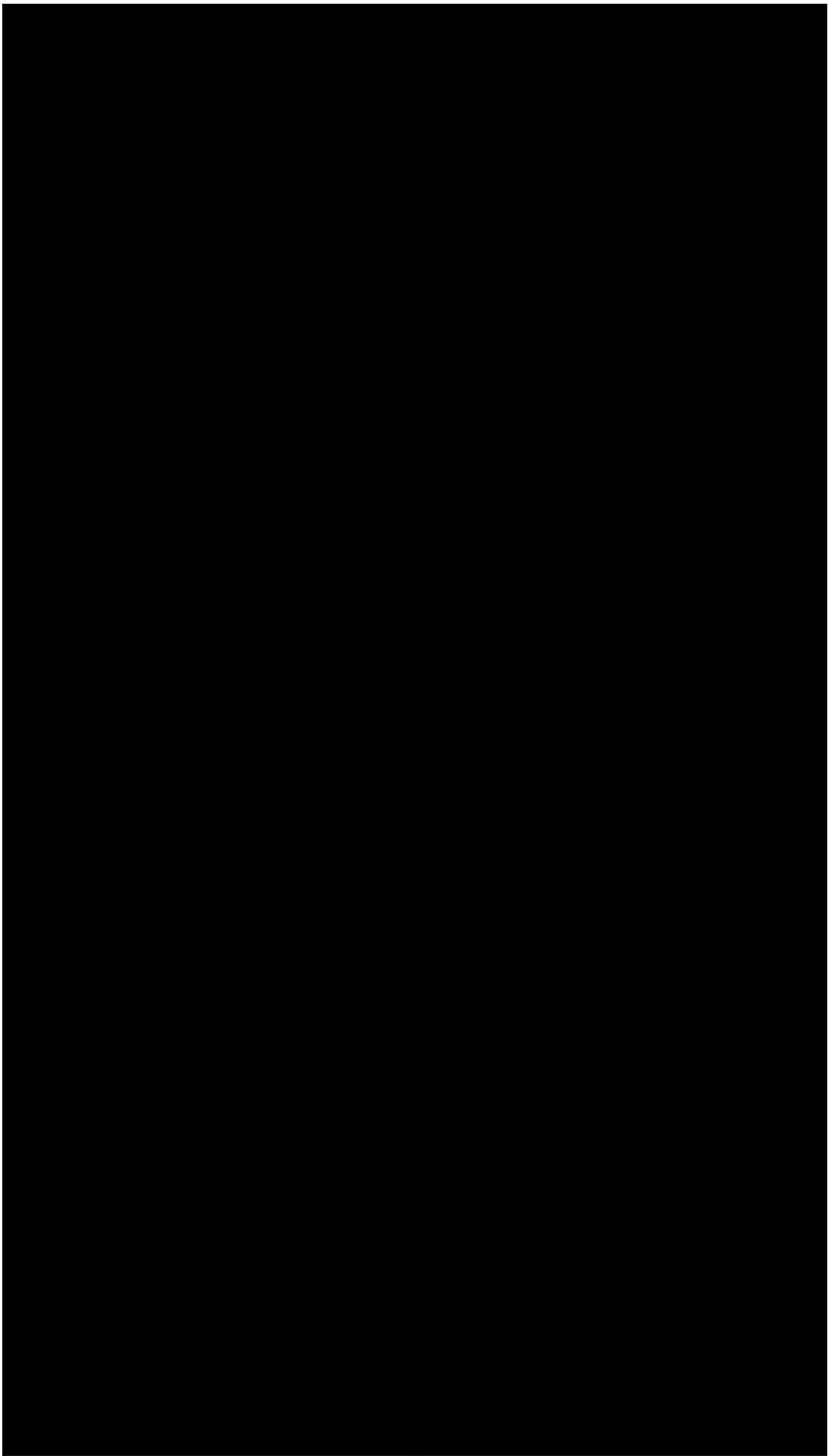


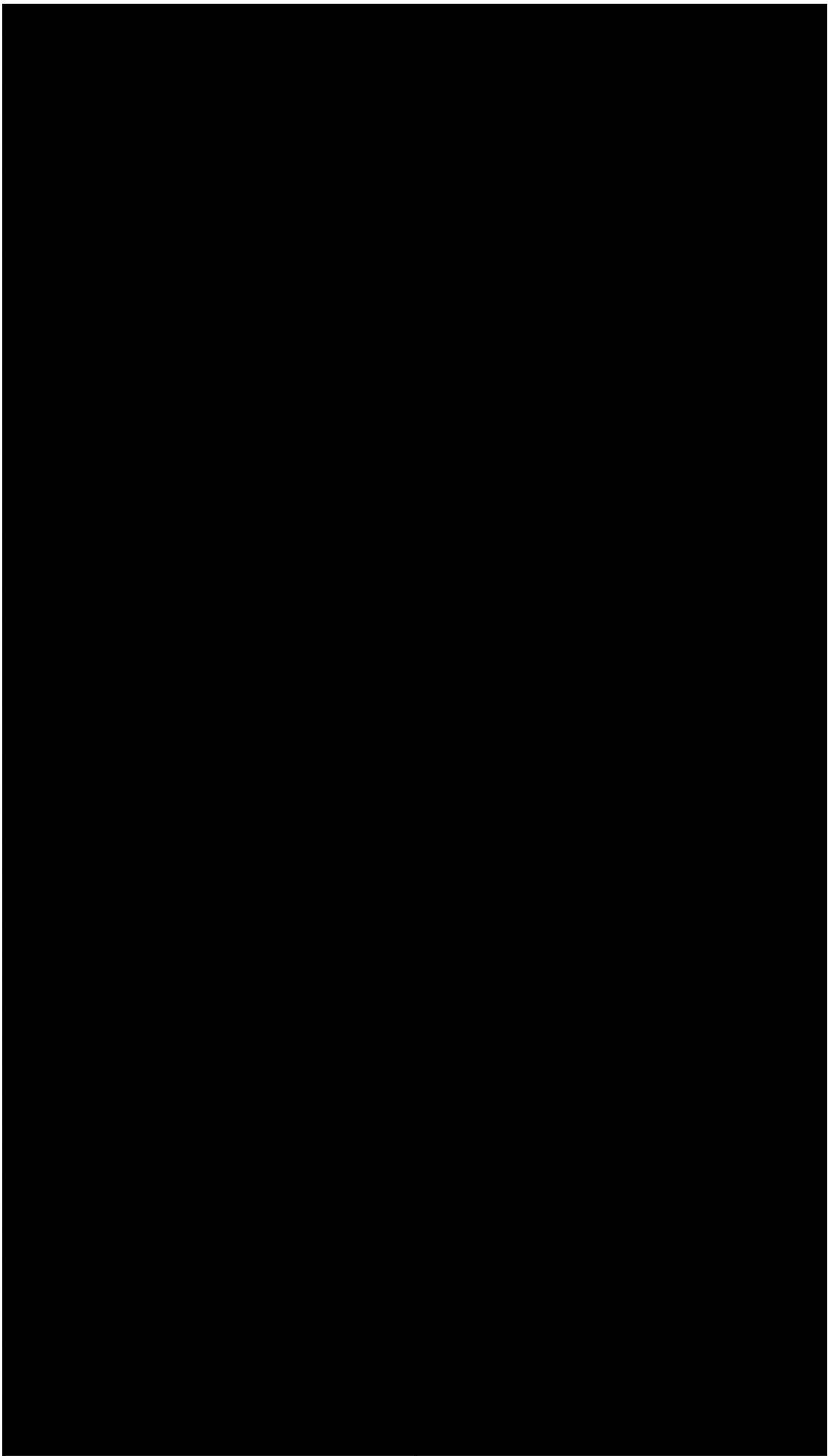


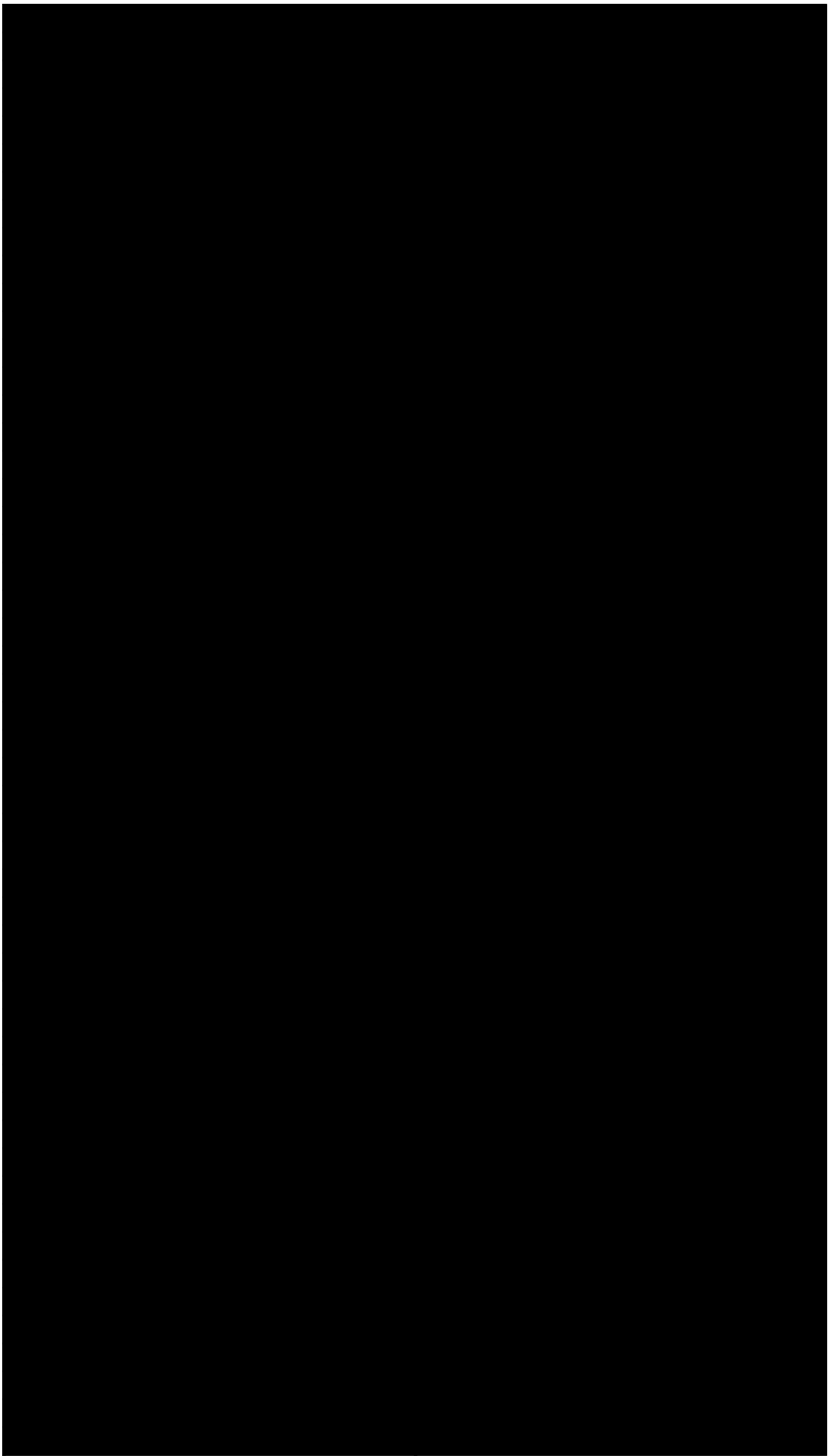


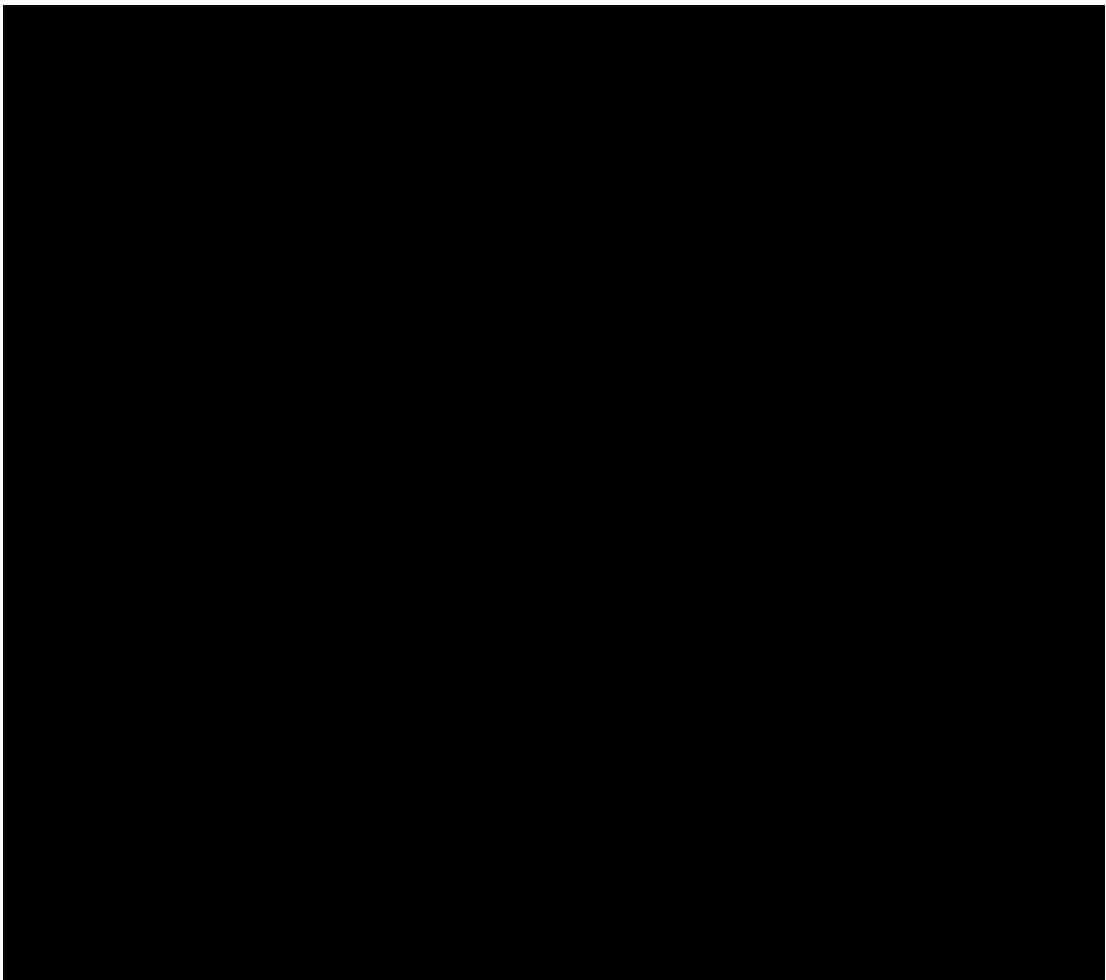
Enter mass or density depending on the product data available

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





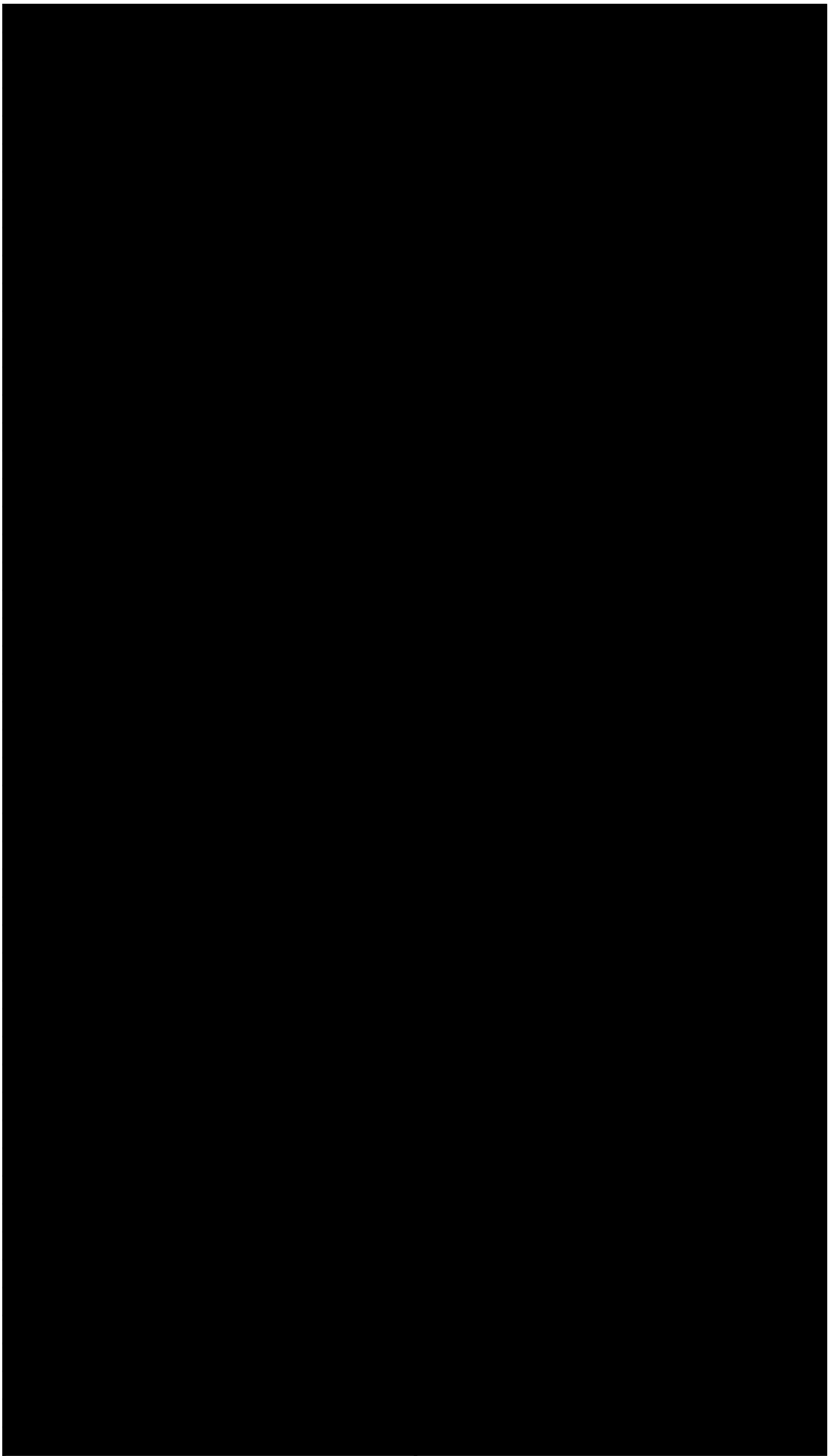


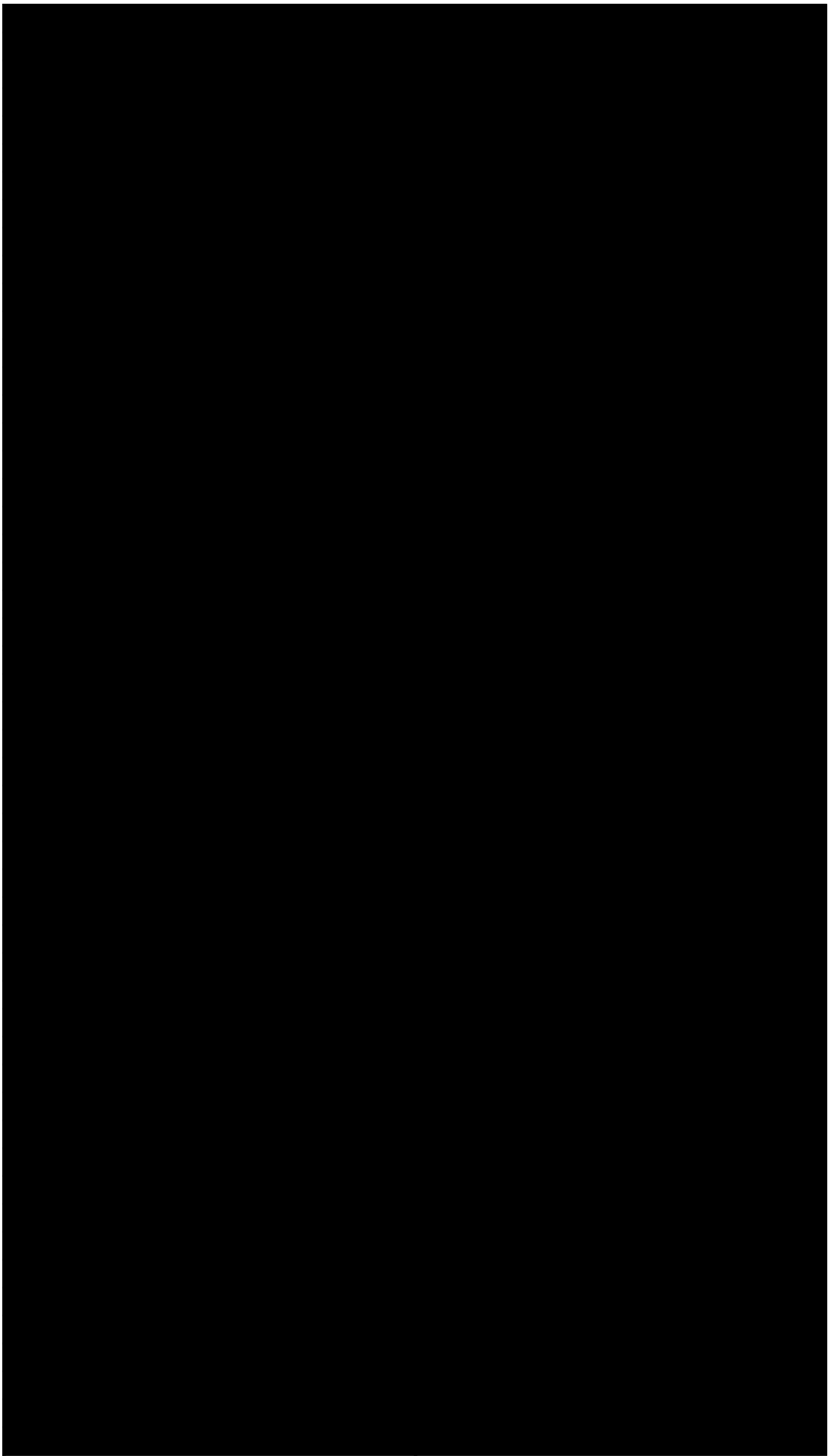


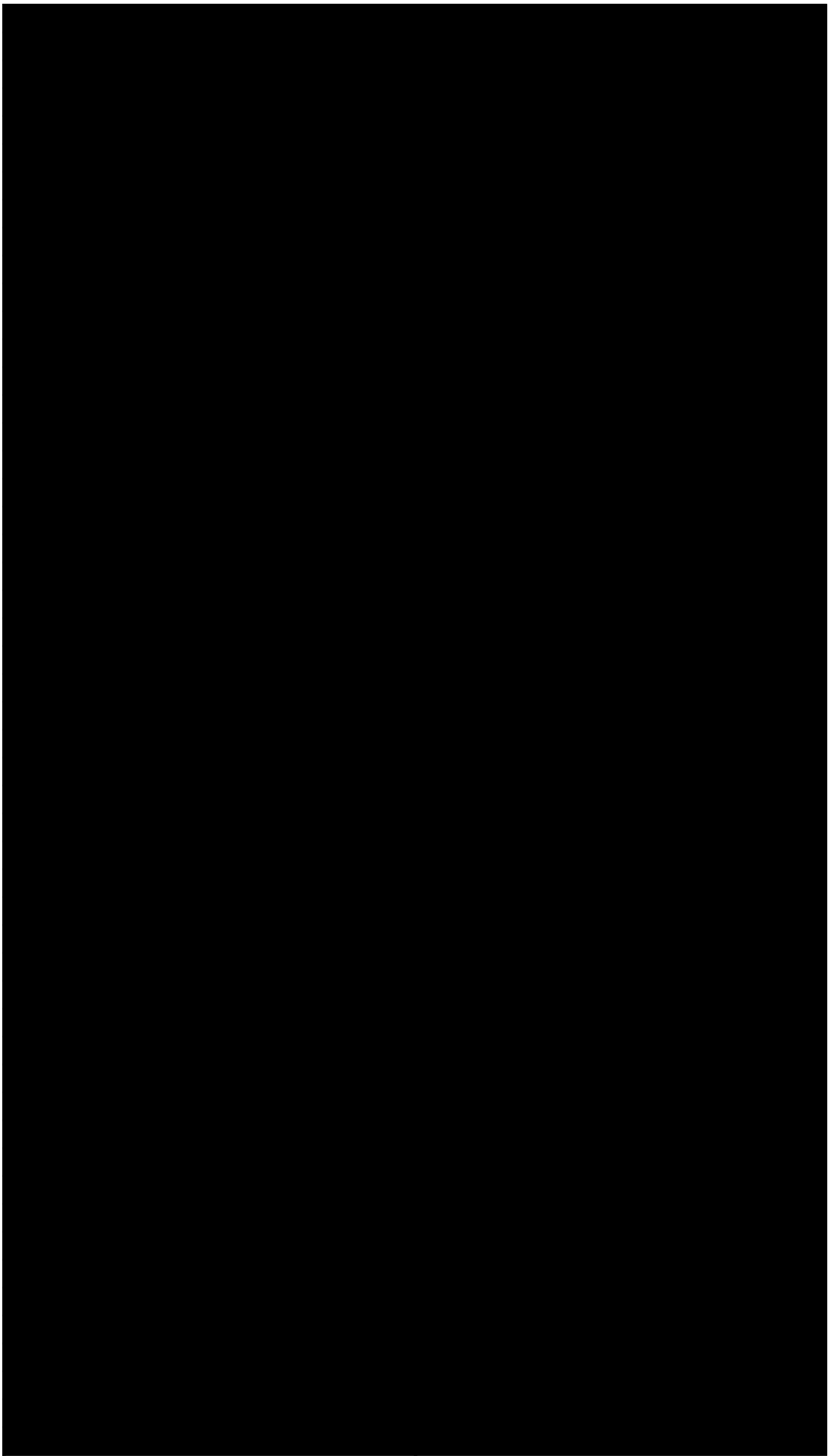


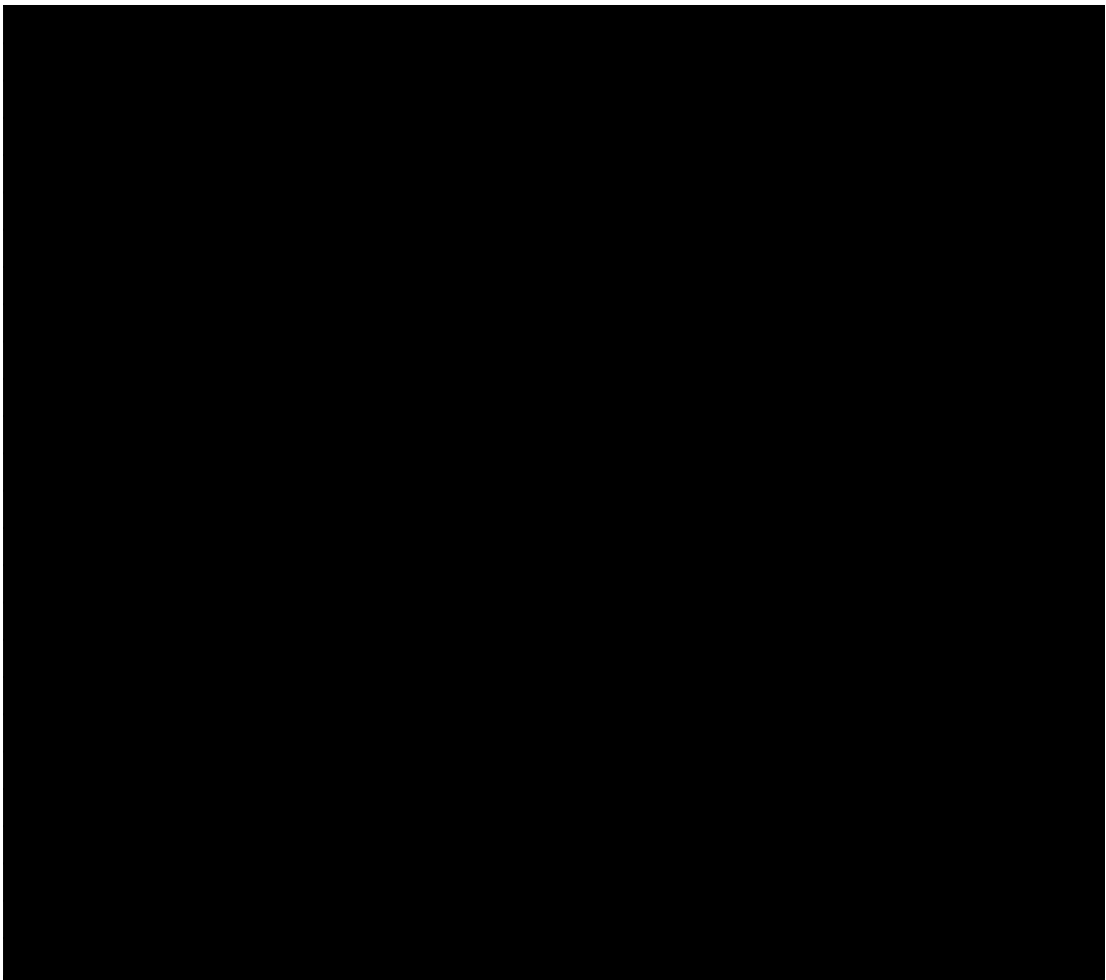
Enter data if shaded blue

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







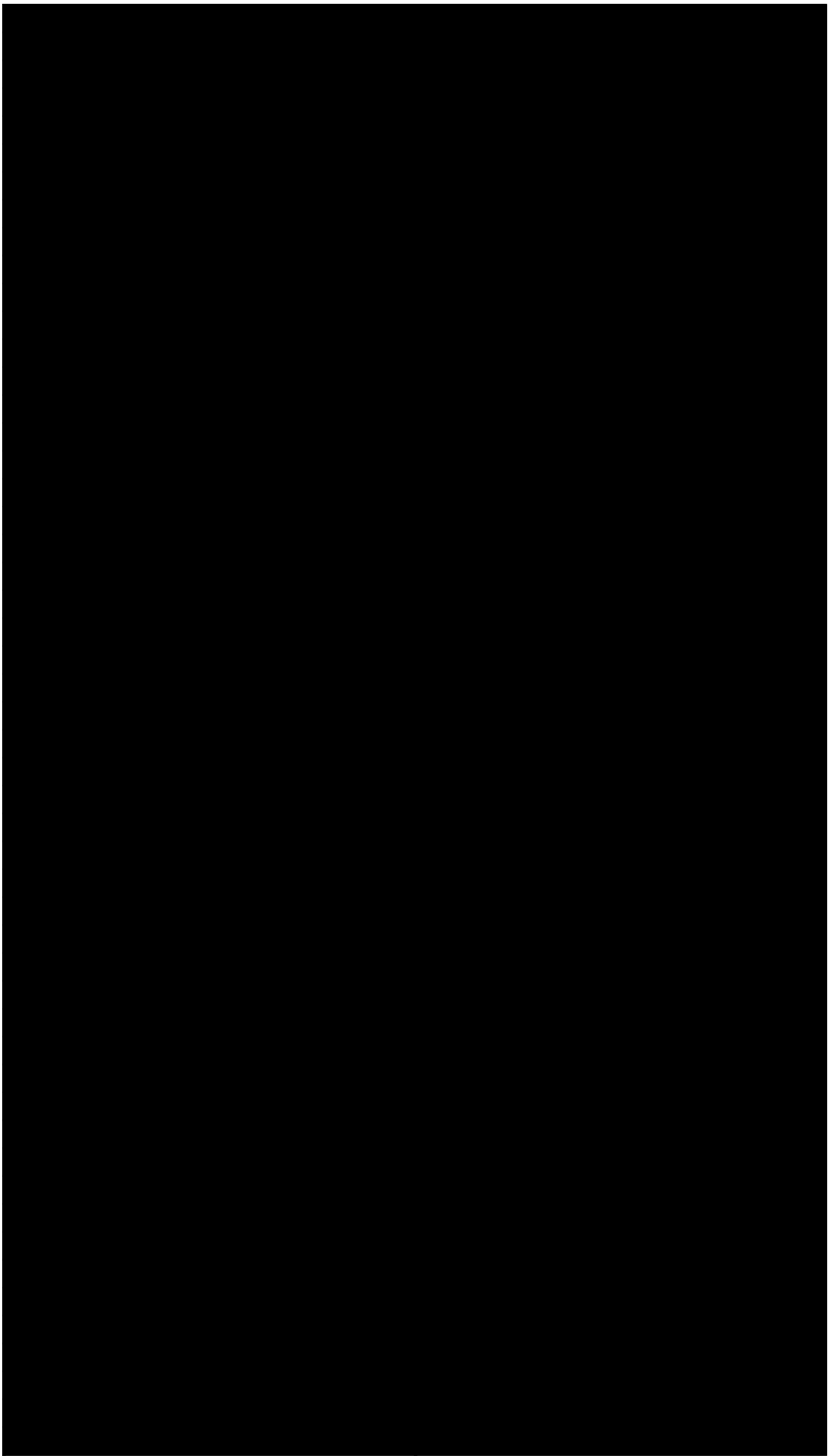


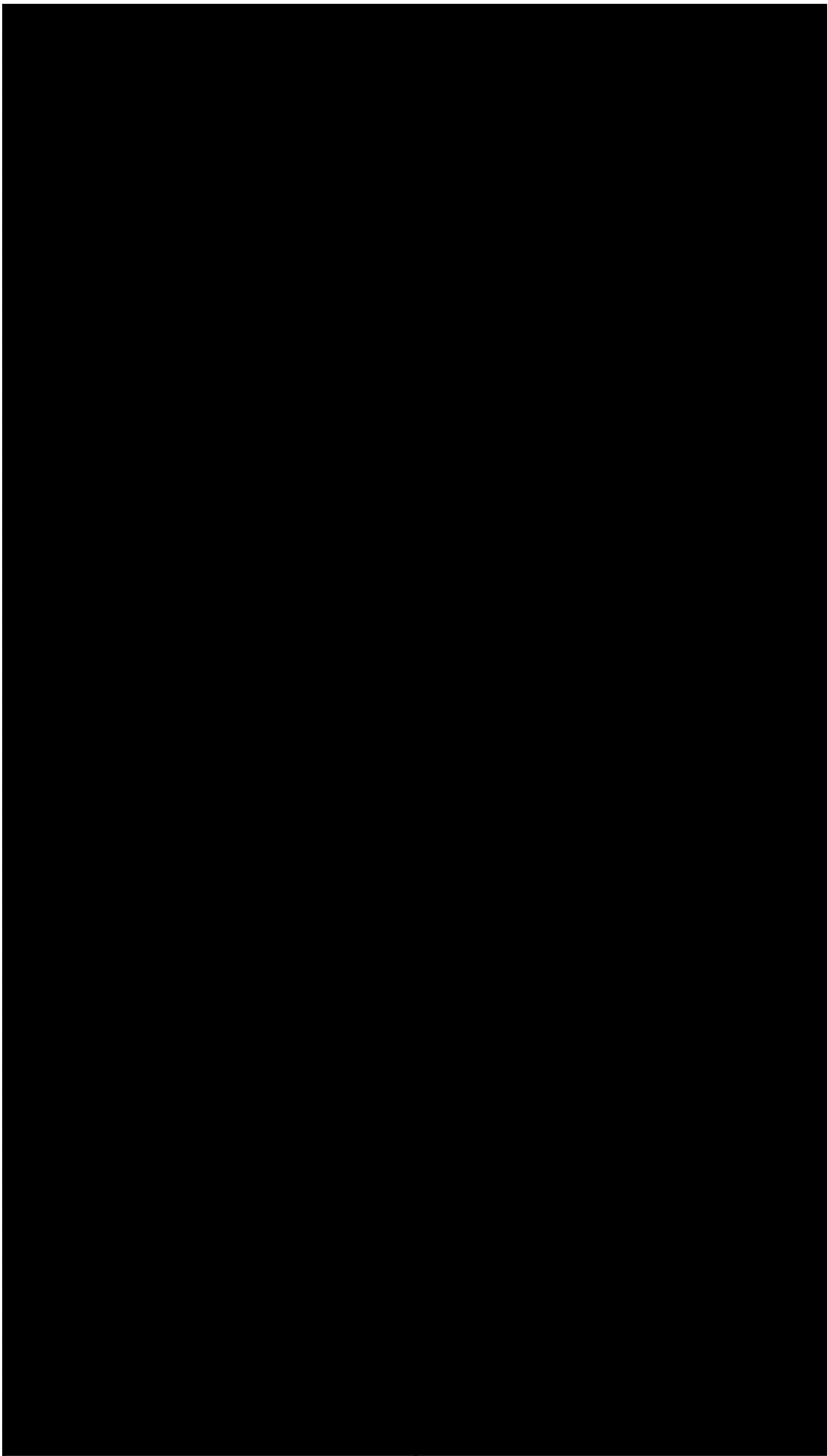


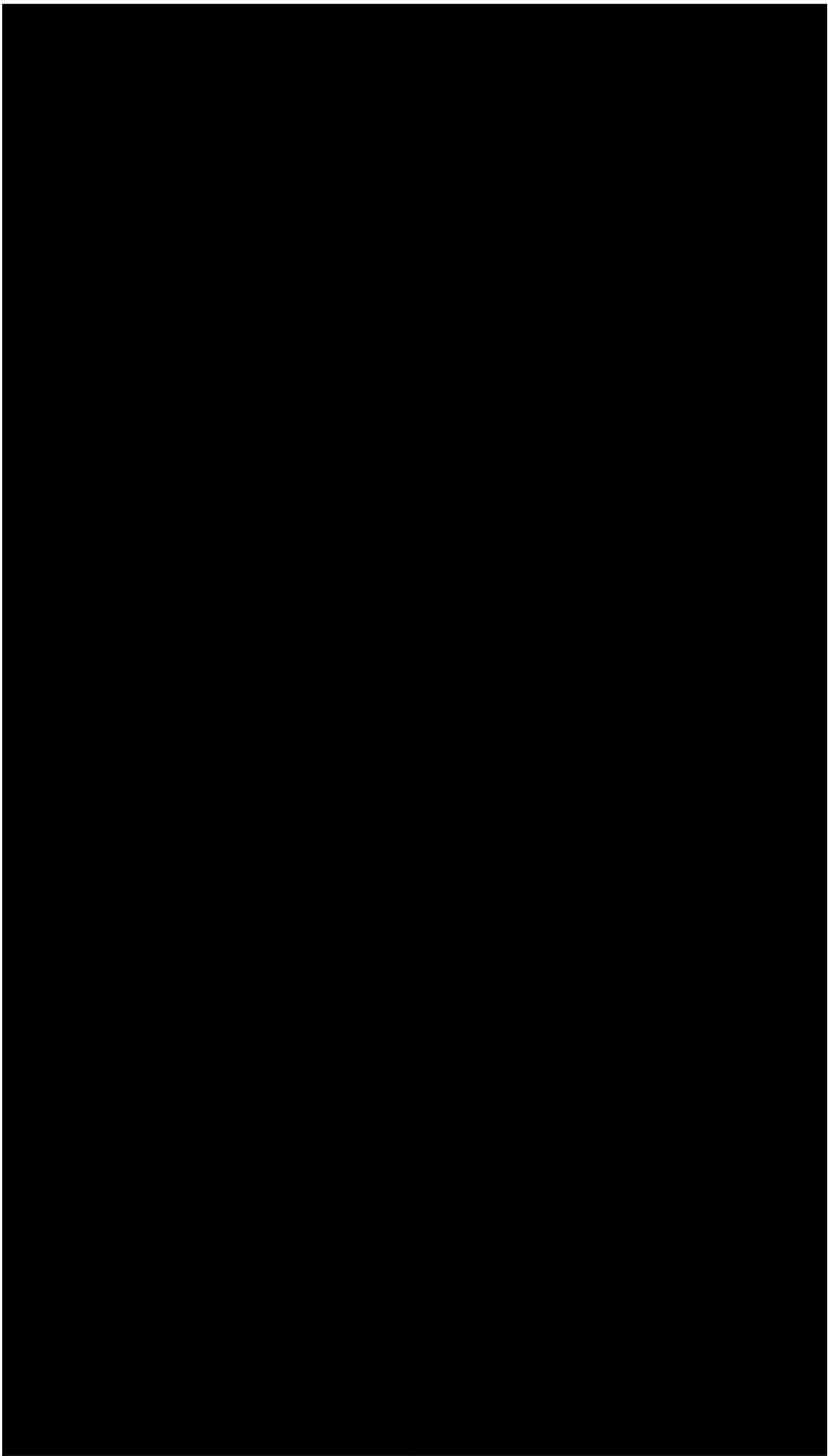
Enter units if shaded blue

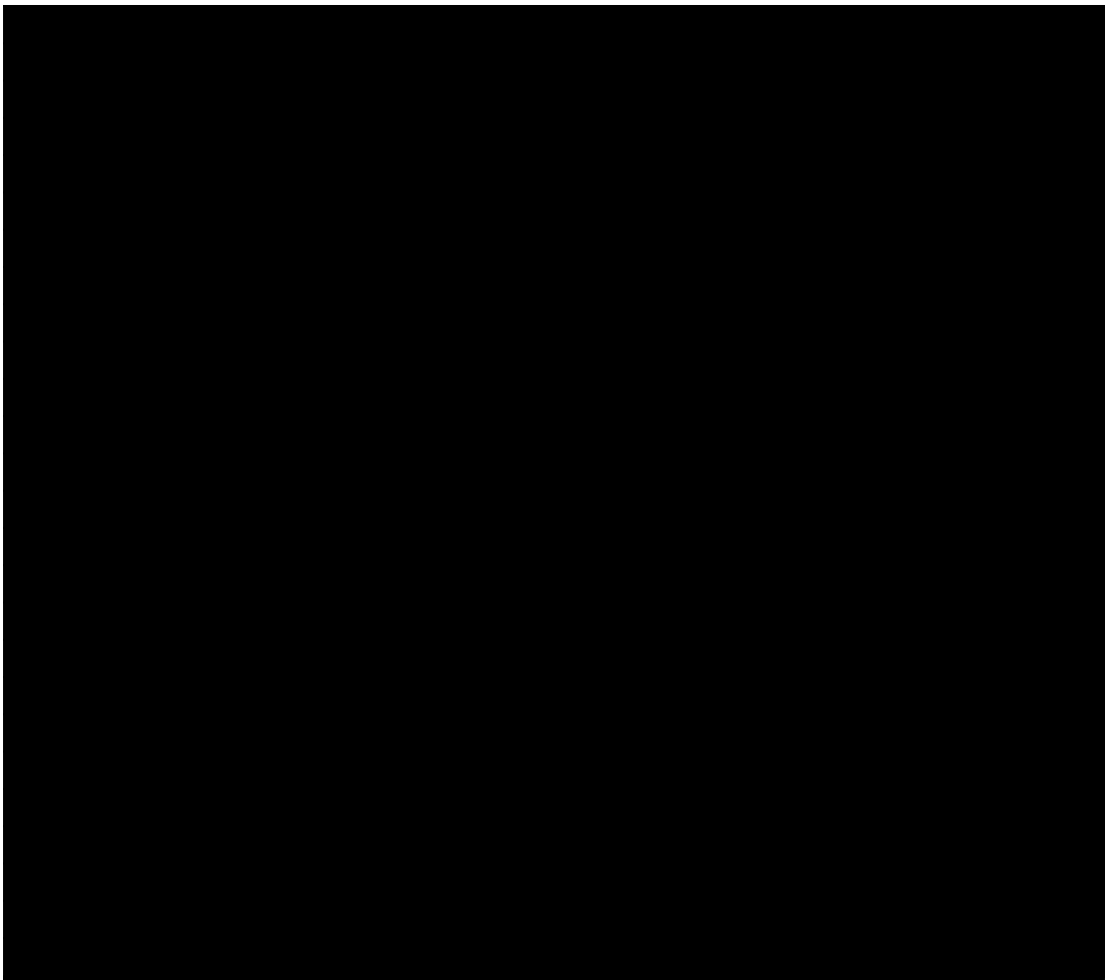
Enter data if shaded blue

		Volume (cubic feet)
Domestically Manufactured Units	Imported	
cubic feet of foam	40	







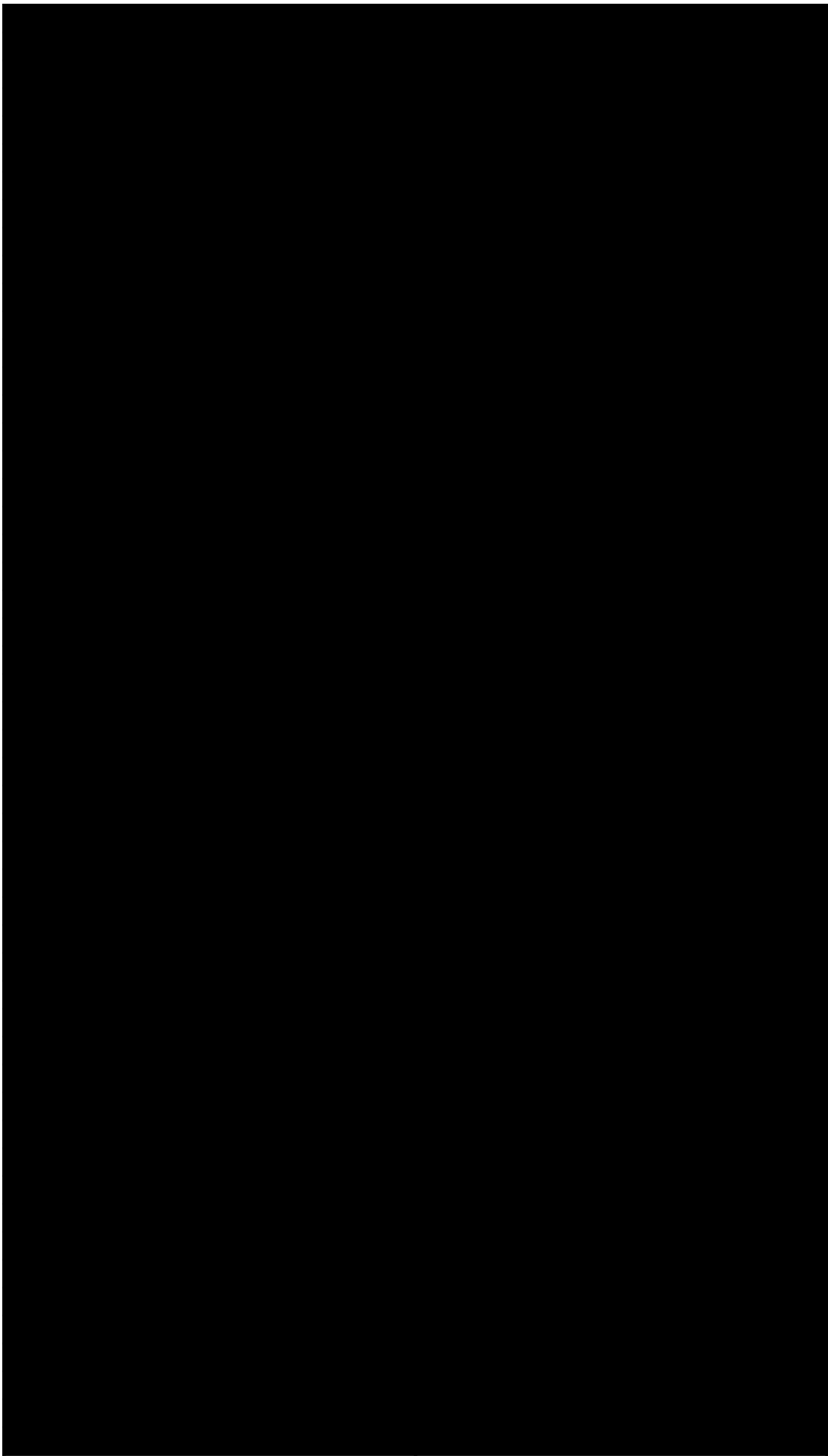


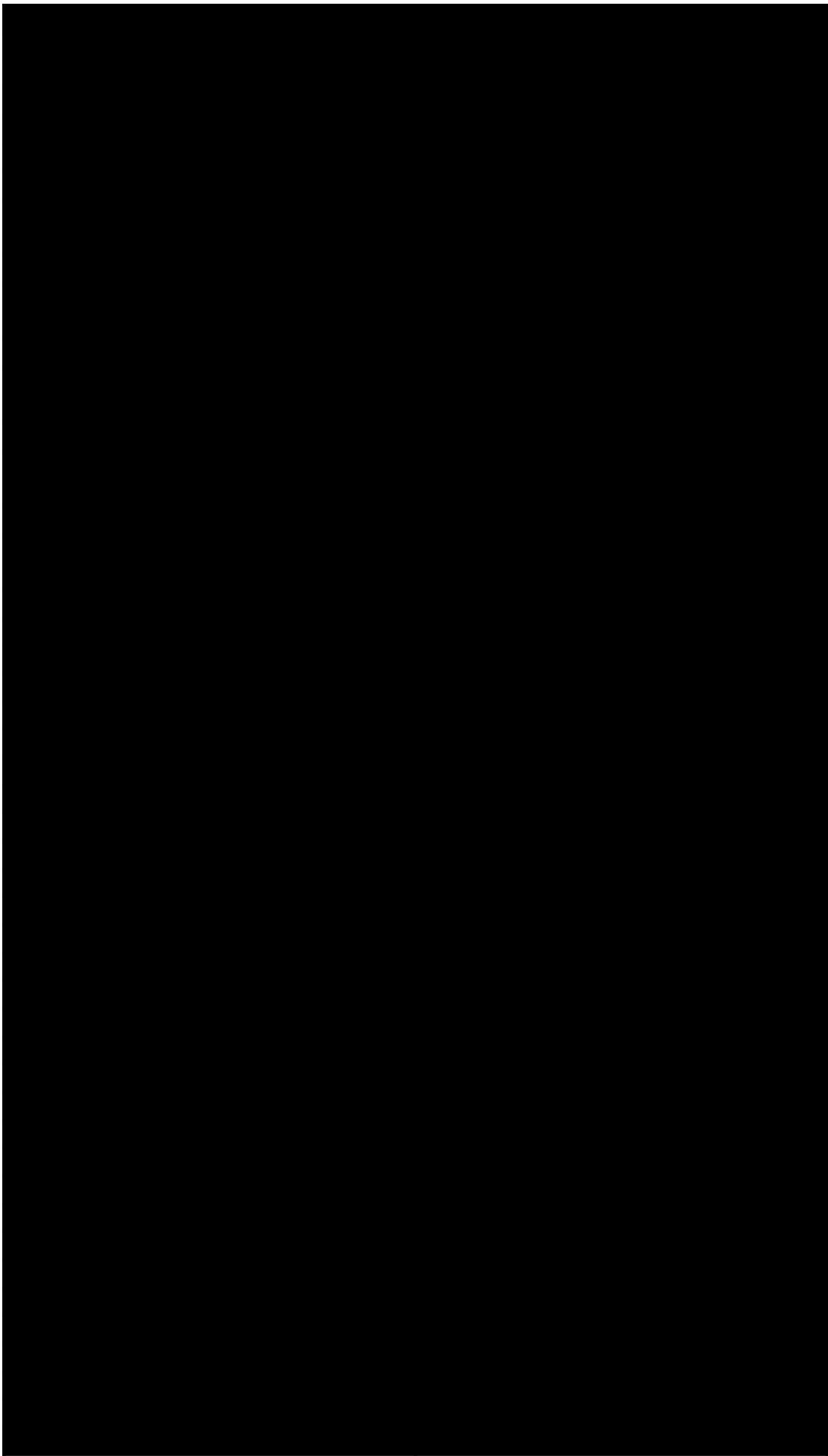


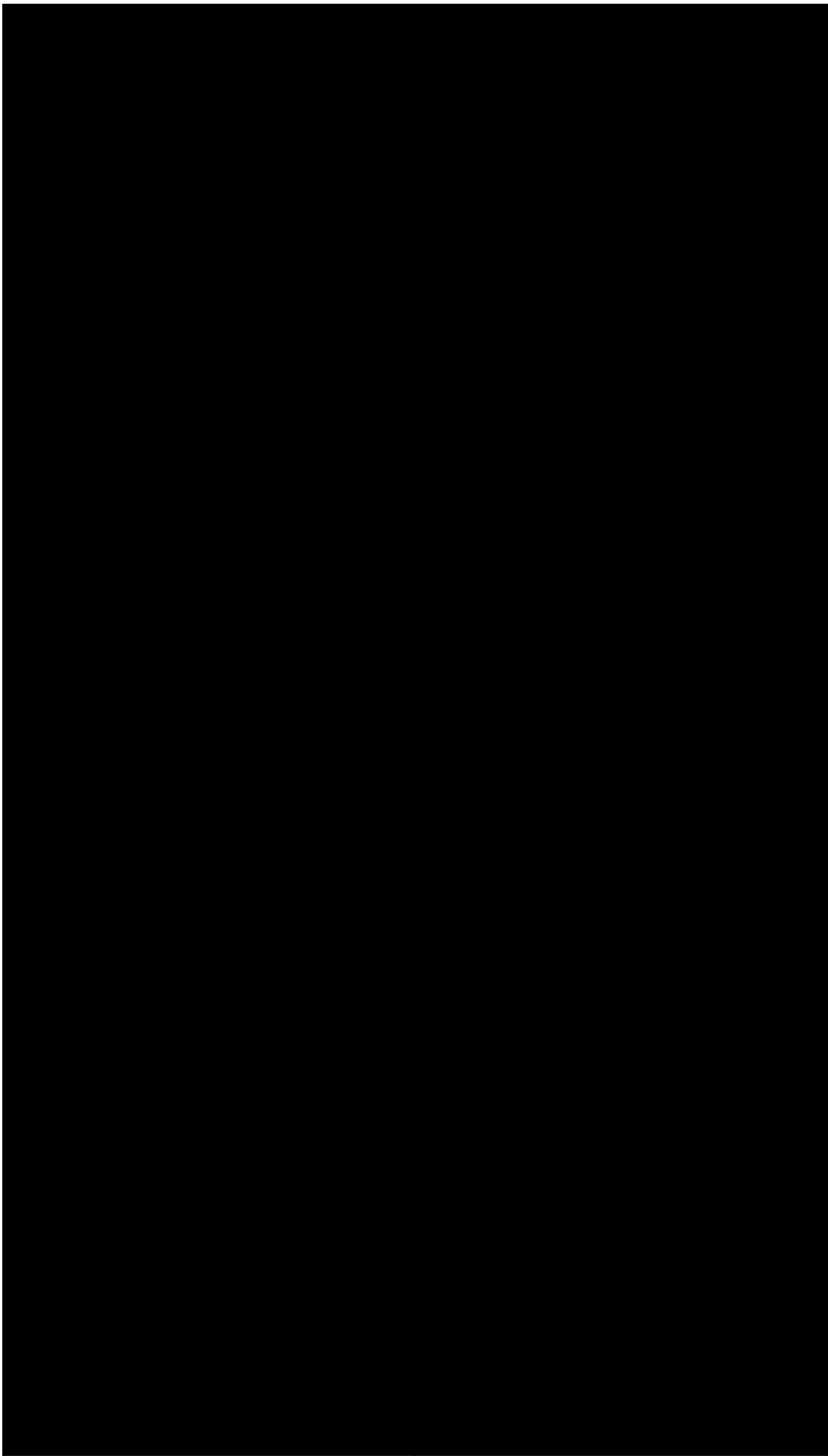
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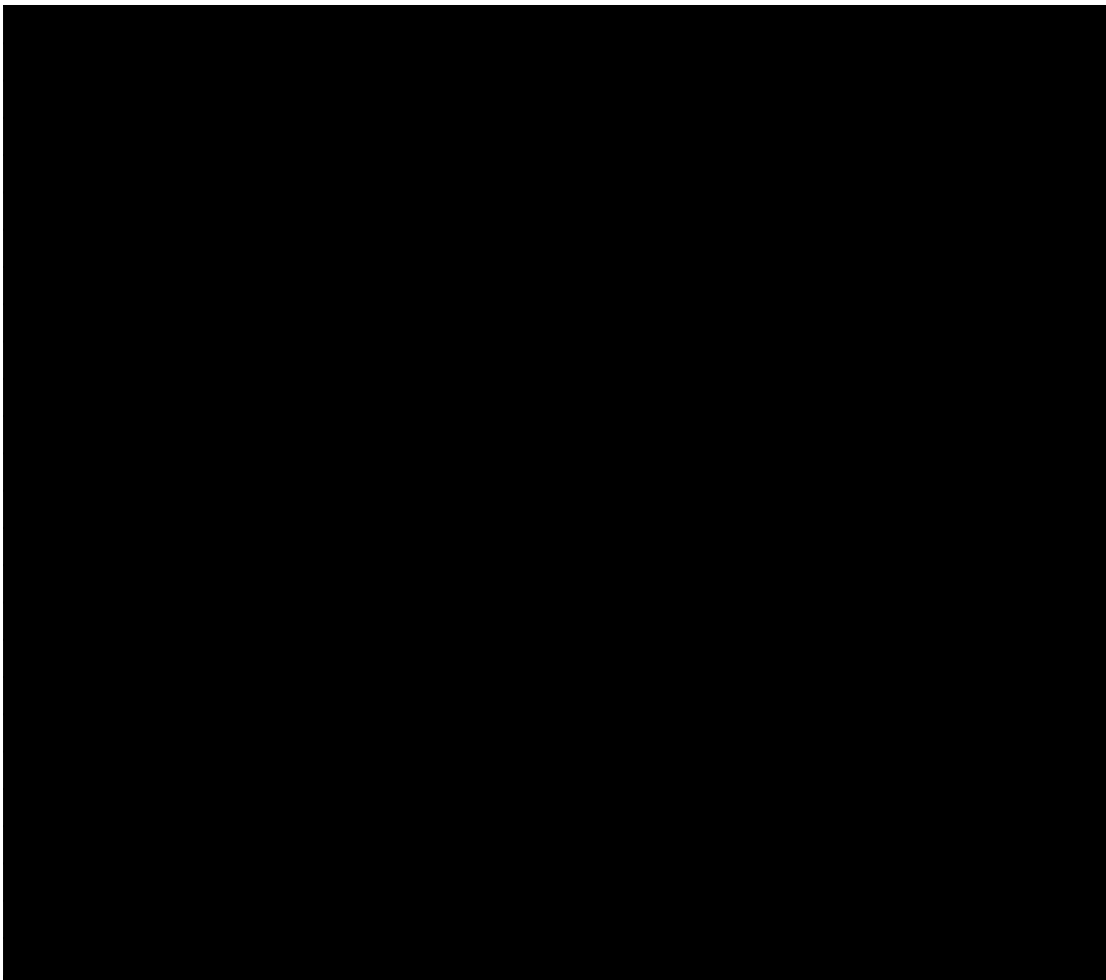
Enter data if shaded blue

of Foam	
Imported Units	Exported
cubic feet of foam	80







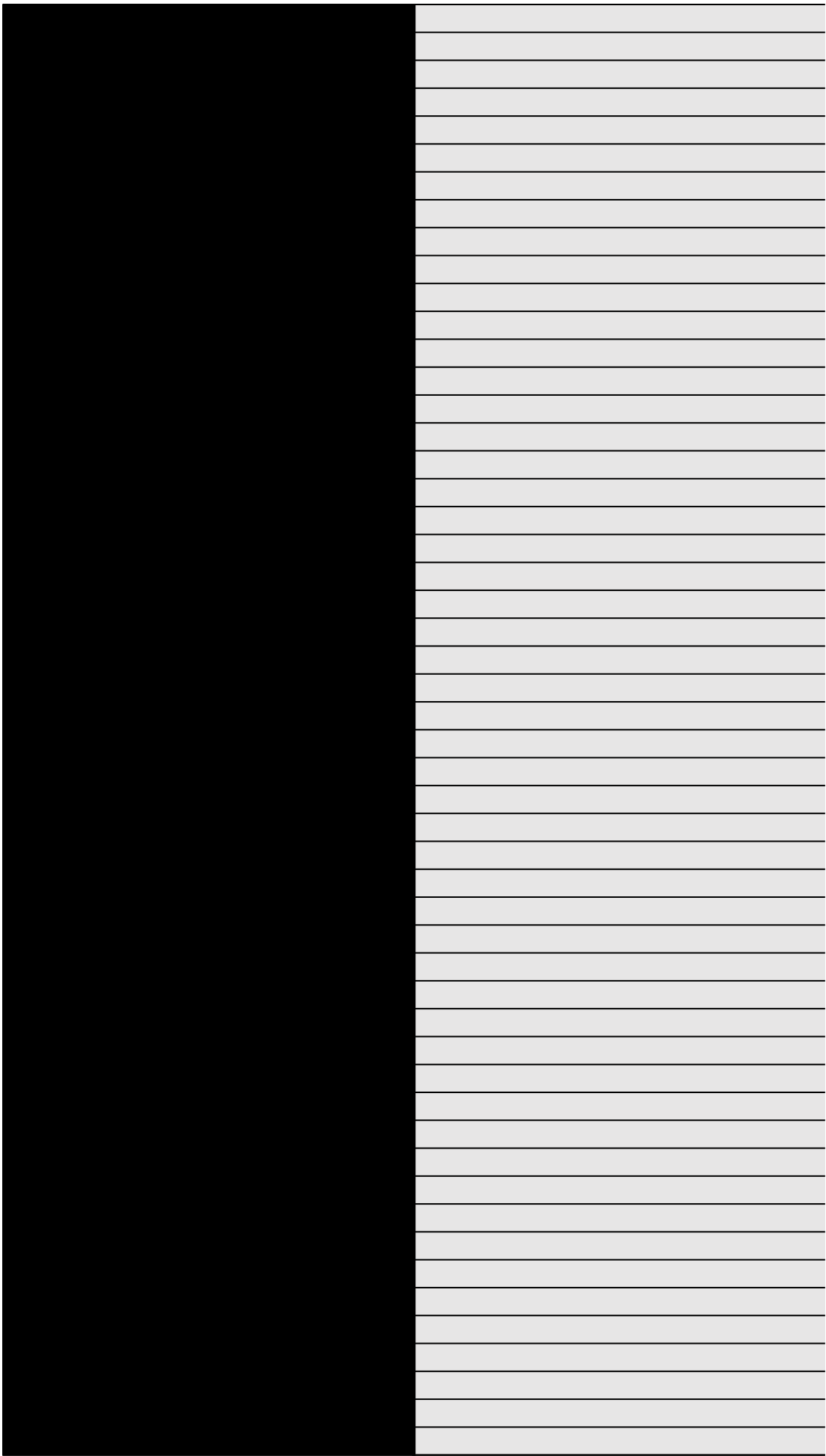




Enter units if shaded blue

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







Phasedown of Hydrofluorocarbons: Restrictions on § 84.60 Reporting Form

Foam Sector

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Required Reporting Information - Foam Sector

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

Sector	Subsector
1 Foam	
2 Foam	
3 Foam	
4 Foam	
5 Foam	
6 Foam	
7 Foam	
8 Foam	
9 Foam	
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(i) of the American Innovation and Manufacturing Act c



it are shaded blue have either a dropdown selection or require data to be entered
each entry. Do not skip any rows and do not merge cells. For any HFCs that are n

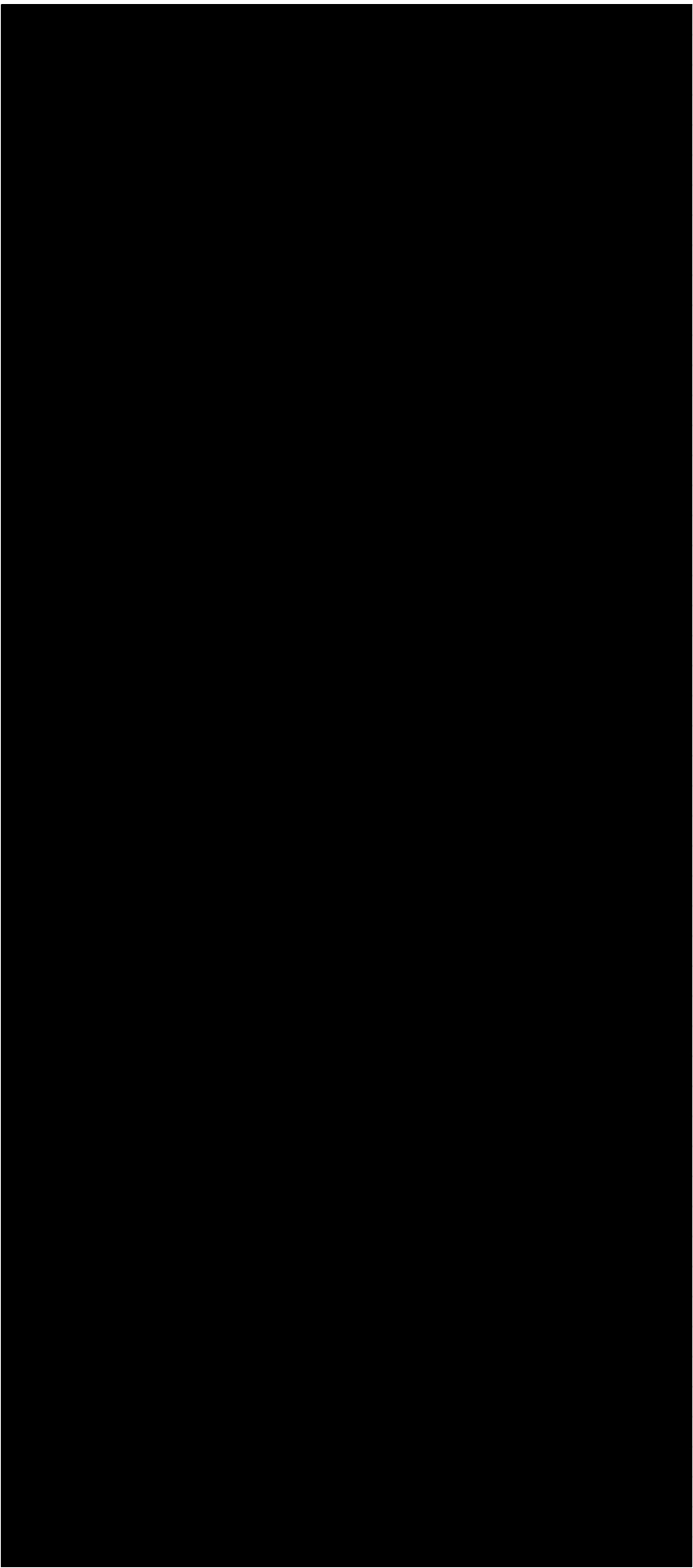
Enter mass or density dependin

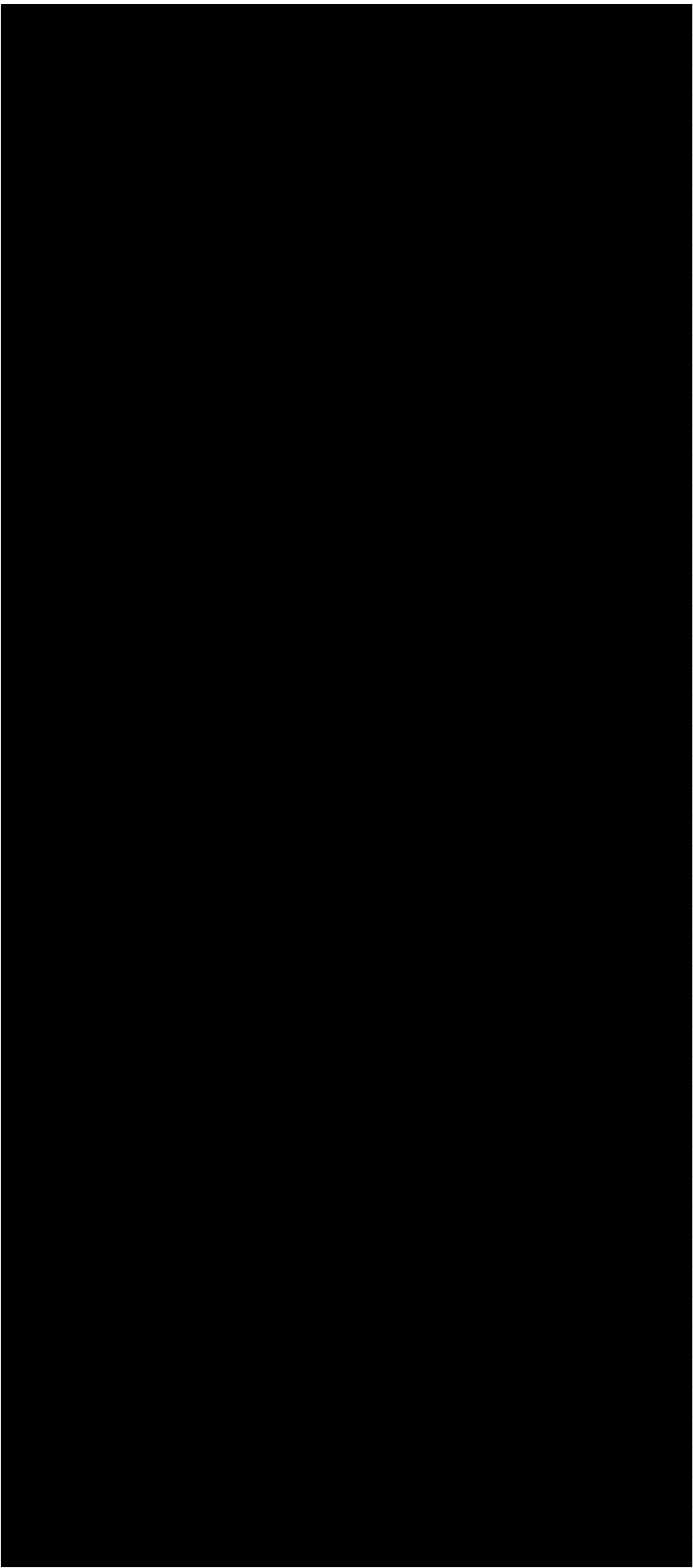
Mass of the Regulated Substance	Mass of Regulated Substance Units

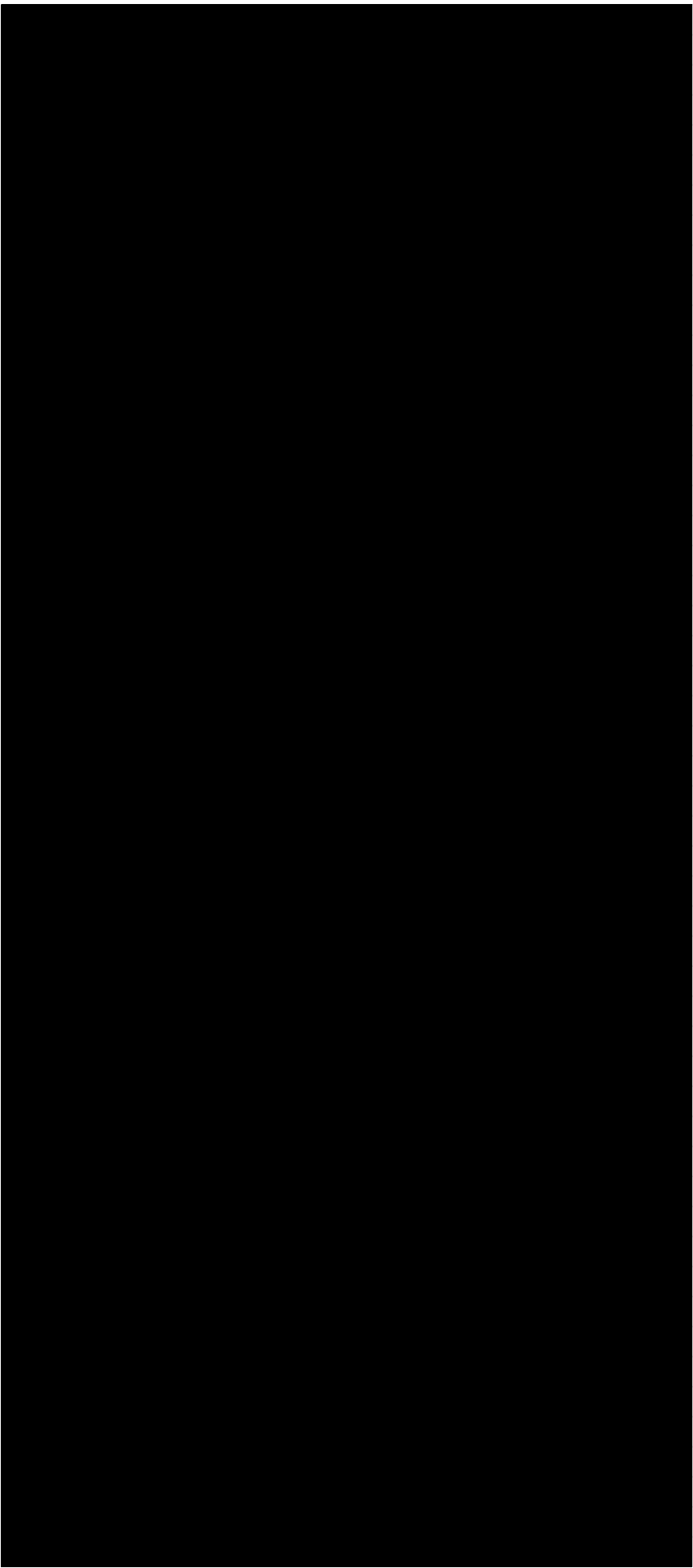
Enter data if shaded blue

Enter units if shaded blue

Volume of Foam	
Domestically Manufactured	Domestically Manufactured Units







Phasedown of Hydrofluorocarbons: Restrictions on Innovation and Manufacturing Act of 2020

§ 84.60 Reporting Form

Aerosols Sector

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[Part 3: Other HFCs and Custom Blends](#)

Required Reporting Information - Aerosols Sector

Instructions: Follow the instructions for each column to enter required reporting information. Cells that are shaded light gray are optional cells. For any HFCs that are not available in the dropdown under "Identify or Other HFCs + Custom Blends" tab.

Select from dropdown

Select from dropdown

Sector	Subsector
1 Aerosols	
2 Aerosols	
3 Aerosols	
4 Aerosols	
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6 Aerosols	
7 Aerosols	
8 Aerosols	
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175	Aerosols	
176	Aerosols	
177	Aerosols	
178	Aerosols	
179	Aerosols	
180	Aerosols	
181	Aerosols	
182	Aerosols	
183	Aerosols	
184	Aerosols	
185	Aerosols	
186	Aerosols	
187	Aerosols	
188	Aerosols	
189	Aerosols	
190	Aerosols	
191	Aerosols	
192	Aerosols	
193	Aerosols	
194	Aerosols	
195	Aerosols	
196	Aerosols	
197	Aerosols	
198	Aerosols	
199	Aerosols	
200	Aerosols	

Enter data

Calculated - No Entry Required

Calculated - No Entry Required

	Total Mass of Each Regulated Substance or Blend Contained in All Products, Annually (Me	
Exported	Domestically Manufactured	Imported

the Use of Certain Hydrofluorocarbons under Subject



Blends

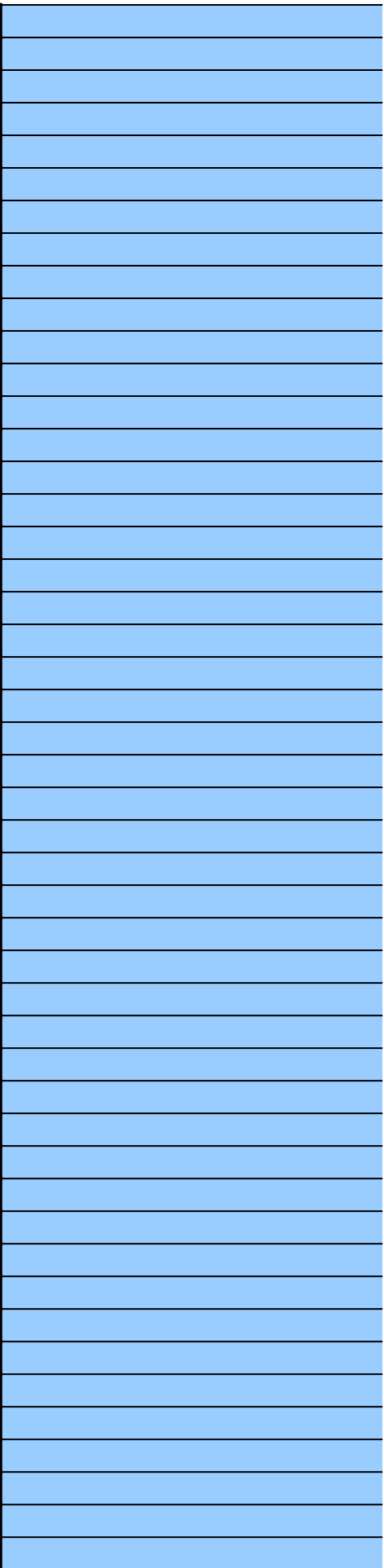
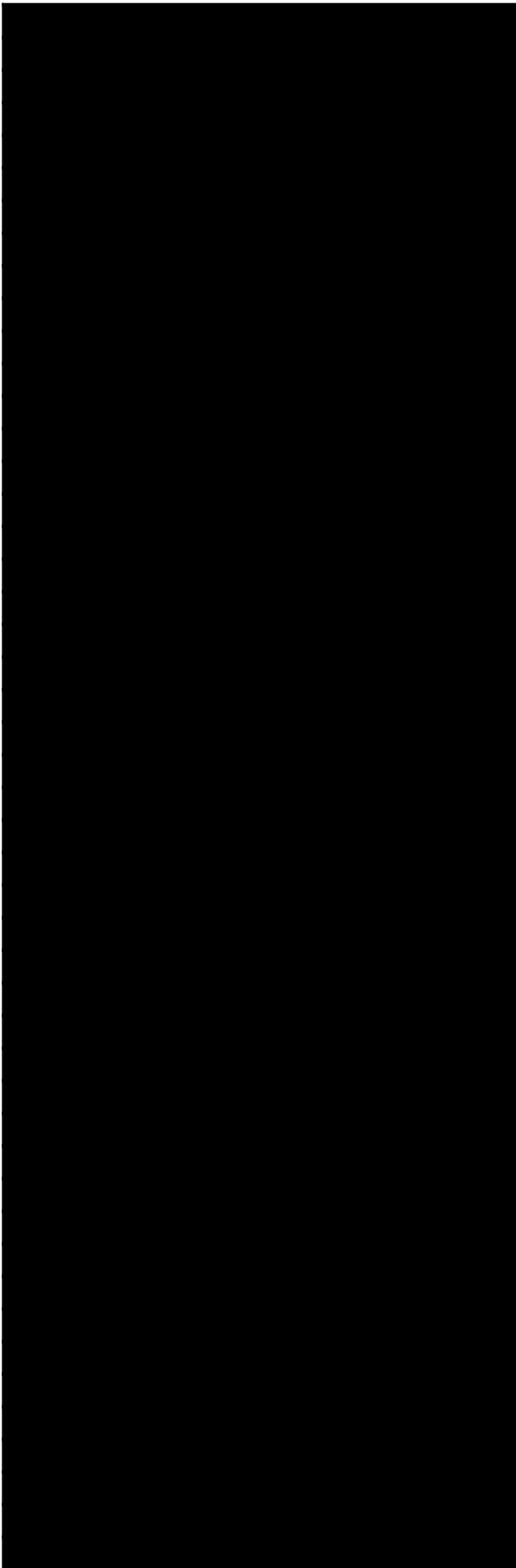
Reporting information.

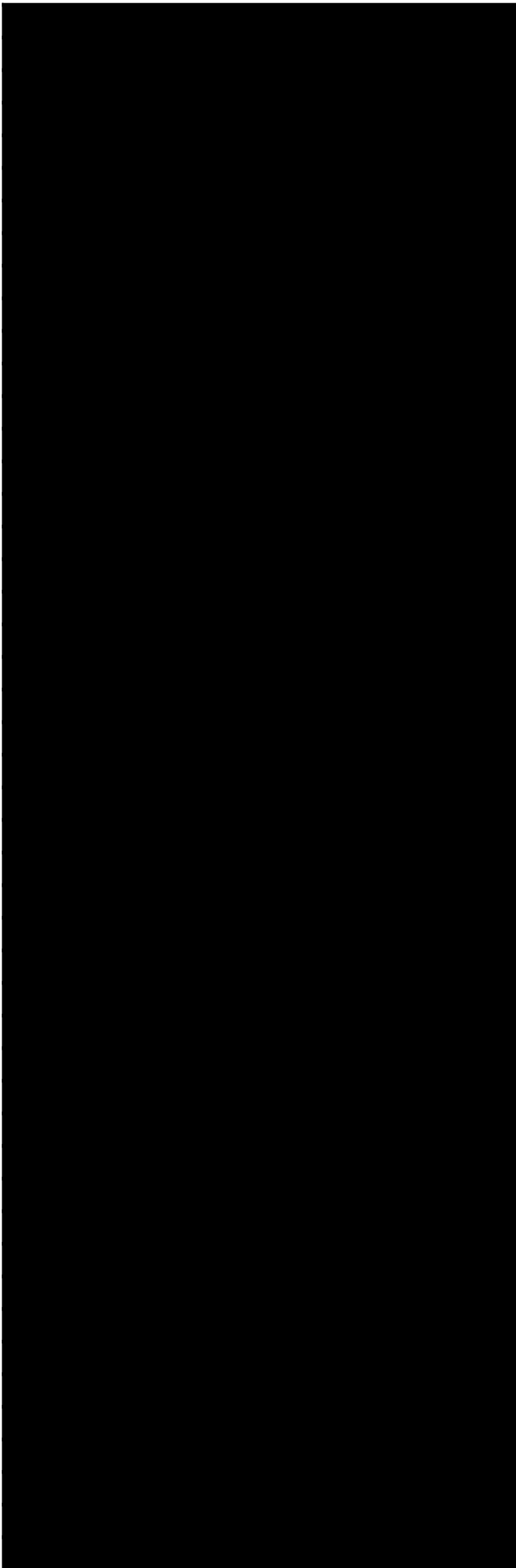
Under "Compound" or select "Other" if the HFC is not available. If selecting "Other"

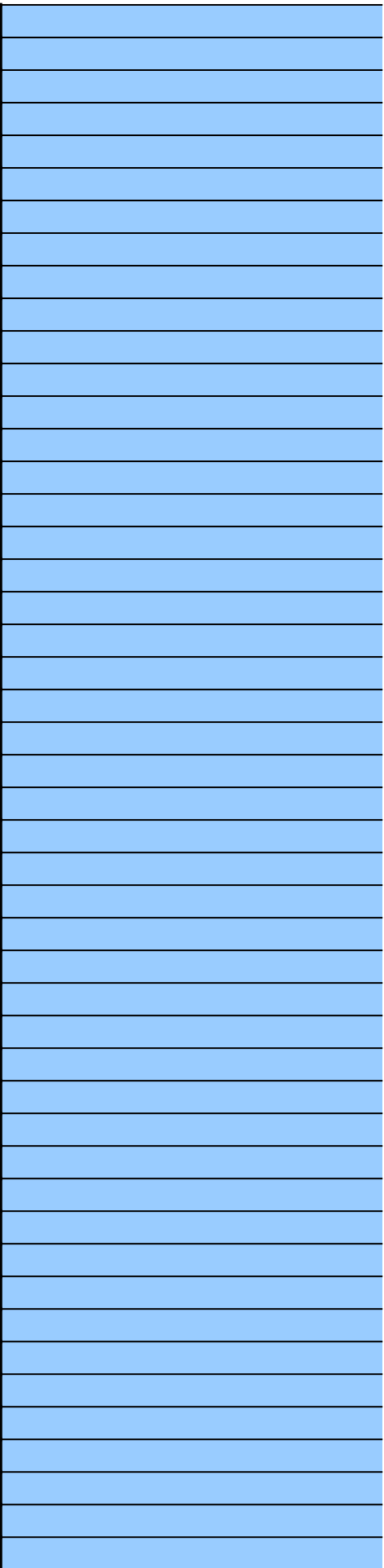
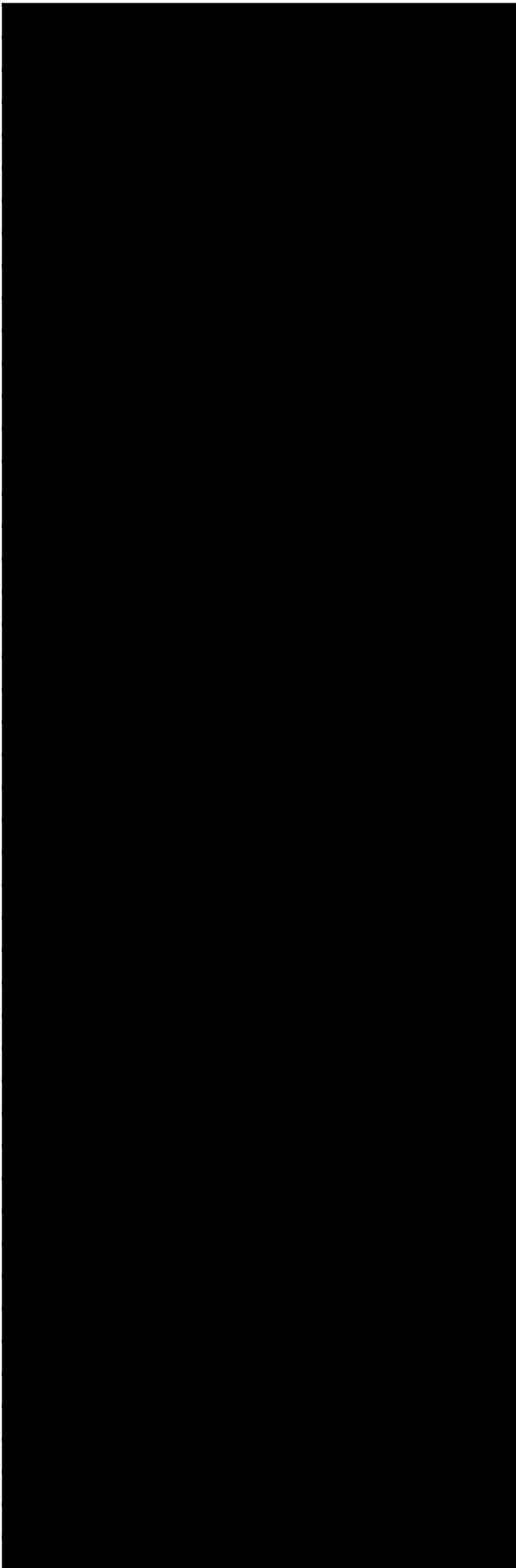
In each row enter the blend name under "Name." Select the compound under "Compound" and enter the compound percent composition under "Percent." For each unique customer

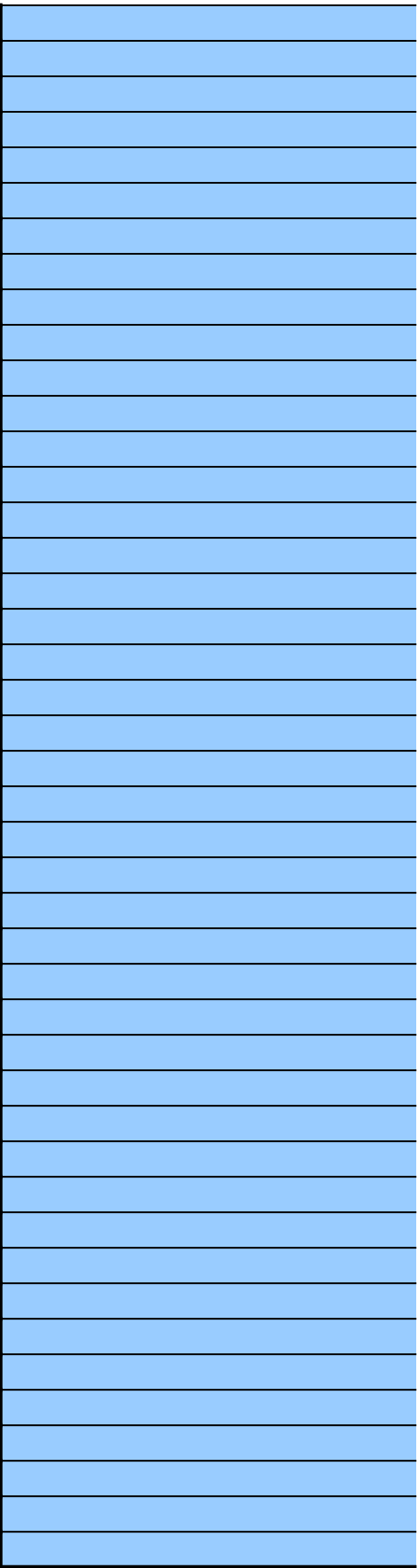
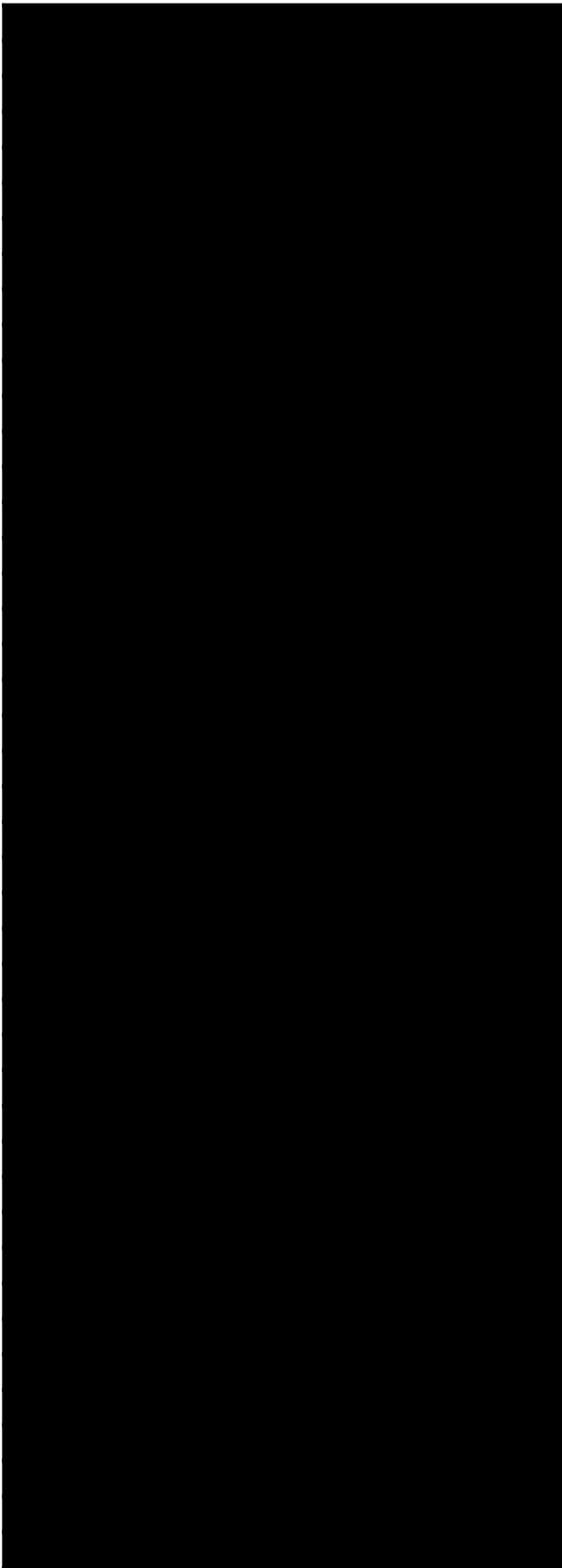
enter an entry for each entry. Do not skip any rows and do not merge cells.

<i>Enter Data</i>	<i>Enter Data</i>
Other Compound - Please Specify	Percent
HFC-123456	100%
Chemical A	50%
[Redacted]	50%
	50%
	50%
	50%











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 panelsc

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 AerosolRange2
Technical aerosoConsumer 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 $\leq 1,000$ lb ice per 24 hours

No

Batch type: harvest rate above 1,000 lb ice per 24 hours

Comfort cooling

Continuous type: harvest rate $\leq 1,200$ 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 $-30\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$)

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 $-30\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$)

With less than 200 lb refrigerant charge and
temperature of the refrigerant entering the
evaporator equal to or above $-30\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$)

With refrigerant entering the evaporator
below $-50\text{ }^{\circ}\text{C}$ ($-58\text{ }^{\circ}\text{F}$)

With refrigerant entering the evaporator equal
to or above $-50\text{ }^{\circ}\text{C}$ ($-58\text{ }^{\circ}\text{F}$) and less than $-30\text{ }^{\circ}\text{C}$
($-22\text{ }^{\circ}\text{F}$)

RACHP Blends

Foam Blends

Aerosol Blends

HFC-134a

HFC-134a

HFC-134a

HFC-152a

HFC-245fa

HFC-152a

HFC-227ea

HFC-152a

HFC-227ea

HFC-23

Blends of HFC-152a /
Saturated Light
Hydrocarbons (C₃-C₆)

HFC-43-10mee

HFC-236fa

HFC-227ea

Custom Blend #1

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

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 $\leq 1,000$ 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 $\leq 1,200$ 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 refrigeration with exiting fluid from -50 °C (-58 °F) to -30 °C (-22 °F)

With 200 or more lb refrigeration

Industrial process refrigeration with exiting fluid above 40 °C (104 °F)

With less than 200 lb refrigeration

Industrial process refrigeration with exiting fluid above 40 °C (104 °F) High temperature side of cascade system

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 Liq

Blends of 10 to 90 percent HFO-12

Blends of 10 to 90 percent HFO-12

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

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

12, and zero to 60 percent water