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## REFRIGERANT GAS REPORTING GUIDANCE DOCUMENT

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This document describes the Hazardous Materials Business Plan (HMBP) Program in San Mateo County and the requirement to report refrigerant gases handled above a threshold quantity at a business. San Mateo County Environmental Health is certified by the state to implement and enforce the HMBP Program requirements found in the California Health and Safety Code Division 20 Chapter 6.95 Article 1. This statute and the regulations found in the California Code of Regulations Title 19 Division 2 Chapter 4 require a business to complete and submit an HMBP if the business handles a hazardous material above an established reporting threshold. The standard hazardous materials reporting thresholds are:

- 55 gallons for a liquid,
- 500 pounds for a solid, and/or
- 200 cubic feet for a gas.

Nonflammable refrigerant gases have an exemption to the 200 cubic foot reporting threshold. The amount of refrigerant that requires submission of an HMBP is 1,000 cubic feet or more.

To determine if your business must complete an HMBP for refrigerant gases, you must convert all onsite refrigerants to cubic feet and then compare the maximum amount of each refrigerant stored in all containers at any one time during the year to the 1,000 cubic foot threshold quantity.

**Refer to the table at the end of this document for common refrigerant gas conversion factors. The type of refrigerant gas used at a business can differ for each refrigeration unit and from site to site.**

**Example:**

ABC Grocery stores 5000 pounds of R-12. The R-12 is stored predominantly as liquid at this facility.

Conversion for R-12:

11.10 lbs / gal	34.60 ft <sup>3</sup> /gal	2.70 Gallons/30 lbs	94.42 ft <sup>3</sup> /30 lbs
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Threshold calculation: Convert 5000 pounds R-12 to cubic feet to determine if it exceeds 1000 cubic feet.

$$(5000 \text{ lbs}) \times \frac{93.42 \text{ ft}^3}{30 \text{ lbs}} = 15,570 \text{ cubic feet. This exceeds the 1000 cubic foot reporting threshold and is required to be reported on the HMBP.}$$

Reporting Calculation: Since most of their refrigerant is stored as a liquid, convert to gallons for reporting.

$$(5000 \text{ lbs}) \times \frac{2.70 \text{ gals}}{30 \text{ lbs}} = 450 \text{ gallons. ABC Grocery reports storing 450 gallons of R-12 (Dichlorodifluoromethane) on the HMBP inventory.}$$

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At this time San Mateo County Environmental Health inspectors from the Hazardous Materials Program are inspecting facilities with refrigerant gases at or above 1,000 cubic feet. If your business handles 1,000 cubic feet or more of a refrigerant at any one time, and/or other hazardous materials at or above the standard reporting thresholds referenced above, your business is required to obtain a permit, submit an HMBP, train employees annually, and prepare for biannual inspections.

There are two options available to businesses for electronic HMBP reporting. The California Environmental Reporting System (CERS) is one option and it is often used by multi-jurisdictional businesses. The other option is the San Mateo County Environmental Health Portal (EH Portal). Although either electronic reporting system can be used to comply with the HMBP submission requirement, our agency recommends that businesses use the EH Portal.

## **HOW DO I GET STARTED?**

**If your business has not been inspected, contact San Mateo County Environmental Health to schedule an HMBP Program inspection. Although it is better to receive an inspection prior to completing the HMBP, you can begin completing your HMBP on CERS prior to the inspection. If you choose to use the EH Portal, you will need to contact this agency in order to establish an account with a Facility Identification Number required to obtain a username and password. See websites referenced below for further information regarding the EH Portal and login request process.**

**EH Portal Access:** <https://ehsubmit.smchealth.org>

**EH Portal Instructions:** <https://ehsubmit.smchealth.org/smc/help/PortalInstructions.pdf>

Log in to the EH Portal website and request a password and lead user access to begin. Once approved, you will be able to access the EH Portal and complete your electronic HMBP submission. Instructions are available at the above referenced website. If you require assistance with your electronic HMBP submission, call our office at (650) 372-6200. You can also email questions or comments to: [SMCUPA@smcgov.org](mailto:SMCUPA@smcgov.org).

Please note that our agency requires written procedures to be in place for prevention and/or mitigation of refrigerant release, and emergency response including but not limited to notification and evacuation procedures. Furthermore, each business subject to regulation must have an employee training program that covers the HMBP training requirements with particular emphasis on refrigerant hazards, safe operation of the refrigeration system, and emergency response to a release or threatened release of refrigerant gases

Finally, if your business stores or handles 1,000 cubic feet or more of a refrigerant gas, failure to comply with the HMBP submission and training requirements may lead to an enforcement action resulting in a penalty or fine.

# REFRIGERANTS

Product Name	Conversions	Gallons / 30 lbs	ft <sup>3</sup> / 30 lbs
<b><u>R-12</u></b>	11.10 lbs / gal 24.60 ft <sup>3</sup> / gal	2.70	93.42
<b><u>R-13</u></b> Chlorotrifluoromethane	7.55 lbs / gal	3.97	108.18
<b><u>R-13B1</u></b>	13.10 lbs / gal 24.00 ft <sup>3</sup> / gal	2.29	77.86
<b><u>R-22</u></b>	10.10 lbs / gal 42.56 ft <sup>3</sup> / gal	2.97	129.37
<b><u>R-115</u></b>	10.90 lbs / gal 20.50 ft <sup>3</sup> / gal	2.75	83.88
<b><u>R-123</u></b>	12.20 lbs / gal 46.00 ft <sup>3</sup> / gal	2.46	115.37
<b><u>R-134</u></b>	8.20 lbs / gal 25.20 ft <sup>3</sup> / gal	3.66	92.60
<b><u>R-142b</u></b>	9.35 lbs / gal 24.40 ft <sup>3</sup> / gal	3.21	110.42
<b><u>R-152a</u></b>	7.59 lbs / gal 44.40 ft <sup>3</sup> / gal	3.95	175.38
<b><u>R-401a (MP-39)</u></b> Chlorodifluoromethane 53% 1,1-Difluoroethane 13%	10.00 lbs / gal	3.00	71.70
<b><u>R-401b (MP-66)</u></b> Chlorodifluoromethane 61% 1,1-Difluoroethane 11%	10.00 lbs / gal	3.00	69.60
<b><u>R-402a (HP-80)</u></b> Pentafluoroethane 60% Chlorodifluoromethane 38% Propan	9.60 lbs / gal	3.13	72.93
<b><u>R-402b (HP-81)</u></b> Pentafluoroethane 38% Chlorodifluoromethane 60% Propan	9.50 lbs / gal	3.16	73.00
<b><u>R-404a (HP-62, FX-70)</u></b> Pentafluoroethane 44% 1,1,1-Trifluoroethane 52%	8.80 lbs / gal	3.41	72.63

<b><u>R-407c (AC 9000)</u></b> Pentafluoroethane 25% <del>1,1,1,2-Tetrafluoroethane 52%</del>	9.50 lbs / gal	3.16	72.68
<b><u>R-408a (FX-10)</u></b> Chlorodifluoroethane 47% <del>1,1,1-Trifluoroethane 46%</del>	8.70 lbs / gal	3.45	70.73
<b><u>R-409a (FX-56)</u></b> Chlorodifluoromethane 60% <del>1-Chloro-1,1-Difluoroethane 15%</del>	10.10 lbs / gal	2.97	73.06
<b><u>R-410a (AZ-20, PURON, SUVA 9100)</u></b> Pentafluoroethane 50%	8.90 lbs / gal	3.37	72.79
<b><u>R-500</u></b> Dichlorodifluoromethane 73.8%	9.80 lbs / gal	3.06	114.14
<b><u>R-502</u></b> Chlorodifluoromethane 48.4%	10.30 lbs / gal	2.91	103.31
<b><u>R-503</u></b> Dichlorodifluoromethane 60%	6.86 lbs / gal	4.37	131.97
<b><u>R-504</u></b> Chlorodifluoromethane 50%	9.02 lbs / gal	3.33	145.19
<b><u>R-505</u></b> Dichlorodifluoromethane 50% Chlorotrifluoromethane 50%	10.77 lbs / gal	2.79	109.93
<b><u>R-506</u></b> Chlorotrifluoromethane 50% R-114	10.70 lbs / gal	2.80	120.68
<b><u>R-507 (AZ-50)</u></b> Pentafluoroethane 50%	9.00 lbs / gal	3.33	72.59