

Proposed Regulations 10/14/2011

AMEND 310 CMR 7.00 Definitions

VOLATILE ORGANIC COMPOUND is any compound of carbon which participates in atmospheric photochemical reactions. For the purpose of determining compliance, VOC is measured by the applicable reference test methods specified in 40 CFR 60. 310 CMR 7.00:

VOLATILE ORGANIC COMPOUND includes all organic compounds except the following:

| <u>CAS Number</u> | <u>Chemical Name</u> |
|----------------------|--|
| ... | |
| 463796 | carbonic acid, |
| <u>616386</u> | <u>dimethyl carbonate,</u> |
| N/A | metallic carbides or carbonates, |
| ... | |
| 127184 | perchloroethylene (tetrachloroethylene), |
| <u>108327</u> | <u>propylene carbonate,</u> |
| 75694 | CFC-11 (trichlorofluoromethane) |



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Background Information & Technical Support Document For Proposed Amendments To

310 CMR 7.00 Definition of Volatile Organic Compounds

Regulatory Authority:
M.G.L. Chapter 111, §§ 142A through 142E

October 14, 2011

I. INTRODUCTION

The Massachusetts Department of Environmental Protection (MassDEP) proposes to amend its regulations to add the compounds dimethyl carbonate and propylene carbonate to the list of exempt compounds in the current definition of Volatile Organic Compound (VOC) in 310 CMR 7.00 in order to be consistent with the U.S. Environmental Protection Agency's (EPA's) definition of VOC.

II. SUMMARY OF PROPOSED REGULATIONS

On January 13, 2009, EPA added dimethyl carbonate and propylene carbonate to the list of those compounds that are exempt from the definition of VOC at 40 CFR Part 51.100(s) for ozone State Implementation Plan (SIP) and ozone control purposes. According to EPA, scientific evidence shows that dimethyl carbonate and propylene carbonate are negligibly reactive, meaning they contribute little or nothing to the formation of ground-level ozone. Due to this change, states may no longer take credit for controlling these compounds in their ozone control strategies.

Dimethyl carbonate (CAS registry number 616–38–6) may be used as a solvent in paints and coatings. It might be used in waterborne paints and adhesives because it is partially water soluble. It also is used as a methylation and carbonylation agent in organic synthesis. It can be used as a fuel additive.

Propylene carbonate (CAS registry number 108–32–7) is an odorless non-viscous clear liquid with a low vapor pressure (0.023 mm Hg at 20 °C) and low evaporation rate compared to many other commonly used organic solvents. It has been used in cosmetics, as an adhesive component in food packaging, as a solvent for plasticizers and synthetic fibers and polymers, and as a solvent for aerial pesticide application.

MassDEP proposes to provide these same VOC exemptions in 310 CMR 7.00. The effect of these exemptions would be that facilities that use or produce dimethyl carbonate or propylene carbonate and that are subject to MassDEP regulations limiting the use of VOC in products and/or facility emissions for purposes related to attaining the ozone National Ambient Air Quality Standards would no longer be required to count these chemicals as VOC in determining whether the facility meets its regulatory obligations.

III. IMPACT OF REGULATIONS

Exempting dimethyl carbonate and propylene carbonate from the definition of VOC will have no environmental impact, but will make Massachusetts rules clearer and consistent with federal rules.

The proposed revisions will have no impact on local governments. In addition, the proposed revisions are categorically exempt from the "Regulations Governing the Preparation of Environmental Impact Reports," 301 CMR 11.00, because the proposed revisions will not result in any increase in emissions.

IV. PUBLIC HEARINGS AND COMMENT

A public hearing on the proposed revisions will be held under the provisions of M.G.L. Chapter 30A, Section 2. MassDEP plans to submit the final regulation revisions to EPA as part of its 8-hour Ozone State Implementation Plan (SIP).