

DRAFT WHITE PAPER

Inclusion of “Paint Thinner and Multipurpose Solvents” in the Consumer Products Model Rule

Introduction

The purpose of this paper is to discuss the impact of requirements on paint thinner and multipurpose solvents on air quality and user safety, and how to effectively regulate the products. The purpose of the regulation would be to reduce emissions of volatile organic compounds (VOCs) from the use, storage and disposal of paint thinner and multi-purpose solvent materials.

Paint Thinners and Multipurpose Solvents are a significant source of VOC emissions. The inclusion of Paint Thinners and Multipurpose Solvents in the Consumer Products rule would provide needed reductions in VOC emissions in the OTC region in order to meet Ozone national air quality standards. The OTC recommendation would help promote consistency in regulations throughout the region

Source Category Description

The source category includes products that are commonly used in the thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations. The categories of Paint Thinners and Multipurpose Solvents should be added to the Consumer Products model rule in an effort to maximize VOC reductions in the OTC region in the shortest time frame possible, instead of undertaking an entirely new rulemaking for the category.

Regulatory History

The California Air Resources Board (CARB) drafted a proposed amendment to Consumer Product and adopted it as a statewide regulation, with revisions effective December 31, 2010.

The SCAQMD has proposed reducing the VOC content of paint thinners and multipurpose solvents to 300 g/l and then 25 g/l. A regulation was put in place, declared by a California court to be unlawful, has been rescinded and readopted, and is now being litigated again. The CARB rule has regulated these categories with a VOC limit of 30% as of 12/31/2010 and a future effective limit of 3% as of 12/31/2013.

The SCAQMD regulation does not address flammability or flashpoint issues of the products, and acetone has become the cheapest alternative solvent, although it is extremely flammable with a very low flash point. (It auto-ignites at a temperature of 465 °C (869 °F) and may explode or cause a flash fire even below room temperature.) In addition, the SCAQMD rule uses grams per liter for their VOC limit, which is inconsistent with the OTC Consumer product rule that uses weight percent for VOC limits. The CARB Rule uses weight percent for VOC limits.

Candidate Control Measures Summary

CARB has already drafted a regulation, reducing the VOC content to 30% and then 3%. The recommendation to the OTC states would be to adopt a similar regulation. Note that the CARB rule address flashpoint and flammability issues in the use of Acetone as a substitute low-VOC thinner and solvent, while the SCAQMD regulation does not.

The OTC states should consider regulatory structures that include provisions for addressing flammability and flash point. A quick discussion with one of the largest solvent manufacturers notes that the timeline proposed in the CARB regulation was acceptable.

Expected Emission Reductions

Reduction of the VOC content to 3 percent VOC could potentially provide a reduction of 42 tons per day for the OTC. (Based on the assumption that the California state emissions reduction would be 21 tons per day, and a similar reduction would occur, based on population data of the 2000 Census, for the OTC region.)

Timing of Implementation

CARB has already drafted a regulation, reducing VOC levels to 30% as of December 31, 2010 and a future effective limit of 3% as of December 31, 2013. The OTC is considering a schedule to implement the 3% limit by 1/1/2014.

Control Efficiency, Rule Penetration, and Rule Effectiveness

The additional paint thinner and multipurpose solvents provisions are intended to impact the products at their manufacture. Rule penetration (RP) would be 100 percent, because the rule affects all solvents within the category in the region. Because this rule affects solvents at the point of manufacture, a 100 percent Rule Effectiveness (RE) is assumed – only compliant solvents would be allowed to be sold in the region.

Rule Development Issues

Paint Thinners and Multipurpose Solvents are a significant source of VOC emissions. The current OTC Consumer Products model rule (2014 OTC Model Rule for Consumer Products) has adopted the categories from the 2006 CARB amendments.

To provide consistency for the industry throughout the OTC states for Paint Thinners and Multipurpose Solvents, each state would need to adopt provisions consistent with the model rule.

Recommendation

The CARB rule, which addresses the flammability safety issue and uses weight percent for VOC concentration limits, should be used to amend the 2014 OTC Model Rule for Consumer Products at this time.