



# TEXAS DEPARTMENT OF LICENSING AND REGULATION

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## Legal Opinion

Issued By: General Counsel's Office  
Texas Department of Licensing and Regulation (Department)

Date: September 17, 2012

Subject: Sale and Use of Refrigerants under Texas Occupations Code Chapter 1302

### **Issue:**

Whether the use of DuPont ISCEON® MO99™ Refrigerant (R-438A) is prohibited under Texas Occupations Code Chapter 1302.

### **Executive Summary:**

Texas Occupations Code §1302.356 addresses the sale and use of flammable refrigerants and refrigerant substitutes. The Department is of the opinion that Section 1302.356 does not apply to any refrigerant or refrigerant substitute that meets the following criteria:

- (1) the product has been classified as "Safety Classification A1" (nonflammable) under ASHRAE Standard 34; and
- (2) the EPA has recognized ASHRAE's classification of the product as Safety Classification A1 (nonflammable) by rule or by notice of acceptability; and
- (3) the EPA has designated the product as "acceptable" pursuant to the Clean Air Act and the rules adopted under that Act.

Since DuPont ISCEON® MO99™ Refrigerant (R-438A) has met the above criteria, Texas Occupations Code §1302.356 does not apply to this product.

### **Analysis:**

The question asked was whether a particular refrigerant, specifically DuPont ISCEON® MO99™ Refrigerant (R-438A), is prohibited from being used in Texas. While the Department has addressed this specific question in this opinion, the Department has reviewed this question from a broader perspective as it would relate to any manufacturer or brand of refrigerant or refrigerant substitute. The Department has reviewed the question pursuant to Texas Occupations Code Chapter 1302, the federal Clean Air Act (42 U.S.C. §7201 et seq) and the rules implementing this Act (40 C.F.R. Part 82), and the accepted industry standards regarding refrigerants and refrigerant substitutes.

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## Texas Occupations Code Chapter 1302

Texas Occupations Code Sections 1302.352 and 1302.356 are relevant for this analysis.

Section 1302.352 requires a person who purchases, sells, or uses a refrigerant in Texas to comply with the federal Clean Air Act and the rules implementing that Act. It also directs the Department to regulate the sale and use of a refrigerant as provided by Subchapter H consistent with the federal Act and rules.

In addition, Occupations Code Section 1302.356 states: “A person may not:

- (1) sell a flammable refrigerant or refrigerant substitute that contains a liquid petroleum-based product for use in an automotive, aviation, commercial, or residential air conditioning or refrigeration system; or
- (2) use a flammable refrigerant or refrigerant substitute that contains a liquid petroleum-based product in the maintenance or installation of any system relating to aircraft.”  
(*emphasis added*)

In order to be covered under §1302.356, the refrigerant or refrigerant substitute must be flammable.

### Industry Safety Classifications

The American National Standards Institute (ANSI) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) have developed a series of standards for the air conditioning and refrigeration industry, including standards on refrigerants and refrigerant substitutes.

ANSI and ASHRAE have approved safety classifications for refrigerants under Standard 34, “Designation and Safety Classification of Refrigerants” (ASHRAE Standard 34). Under this standard, refrigerants have been assigned classifications based on flammability and toxicity ranging from Safety Classifications A1 through A3 and B1 through B3. Classification A1 is the “safest” classification and means that the refrigerant or refrigerant substitute is nonflammable and has no identifiable toxicity at concentrations of less than or equal to 400 parts per million (ppm).

ANSI and ASHRAE have designated DuPont ISCEON® MO99™ Refrigerant as R-438A. In June 2009, R-438A was added as a new refrigerant in ASHRAE Standard 34 and was classified in the A1 Safety Classification (nonflammable).<sup>1</sup>

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<sup>1</sup> R-438A was added to Table 2 and Table D2 of ASHRAE Standard 34. See “ANSI/ASHRAE Addenda af and ag to ANSI/ASHRAE Standard 34-2007.”

## Clean Air Act and EPA Rules and Notices of Acceptability

The U.S. Environmental Protection Agency (EPA) is charged with implementing and enforcing the federal Clean Air Act of 1990, 42 U.S.C. Section 7401 et seq. Section 612 of the Clean Air Act requires the EPA to evaluate substitutes for ozone-depleting substances (ODS) to reduce the risk to human health and the environment and to publish a list of acceptable and unacceptable substitutes. The EPA has adopted rules at 40 CFR Part 82, Protection of Stratospheric Ozone, and created the Significant New Alternatives Policy (SNAP) Program to evaluate and regulate the substitutes.

The EPA reviews the substitutes on the following criteria: (1) atmospheric effects including ozone depletion potential and global warming potential; (2) exposure assessments; (3) toxicity data; (4) flammability; and (5) other potential environmental impacts. For flammability, EPA evaluates the “risk using data on: flash point and flammability limits (e.g. OSHA flammability/combustibility classifications); data on testing of blends with flammable components; test data on flammability in consumer applications conducted by independent laboratories; and information on flammability risk minimization techniques.”<sup>2</sup>

After its review, the EPA publishes lists of acceptable and unacceptable substitutes for various industries including the air conditioning and refrigeration industry.<sup>3</sup> For substances that the EPA determines “unacceptable,” “acceptable to use conditions,” and “acceptable subject to narrow use,” the EPA publishes proposed rules open for public comment. For substances the EPA determines “acceptable without restriction” (acceptable), the EPA publishes Notices of Acceptability.<sup>4</sup>

On September 30, 2009, the EPA published a Notice of Acceptability (Notice 24) affecting DuPont™ ISCEON® MO99.<sup>5</sup> Under this notice, the EPA expanded the list of acceptable substitutes for use in the refrigeration and air conditioning industry. It also provided notice to the public about this specific refrigerant’s new designation, trade name and safety classification:

“DuPont Fluoroproducts has notified EPA that it is using the name DuPont™ ISCEON®

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<sup>2</sup> See Basic Information on SNAP on the EPA website at: <http://www.epa.gov/ozone/snap/about.html>.

<sup>3</sup> The EPA updates the lists of acceptable and unacceptable substitutes several times every year and publishes these lists in the Federal Register and on the EPA website at: <http://www.epa.gov/ozone/snap/regulations.html>.

<sup>4</sup> The EPA’s most recent version of the “List of All Substitutes for Refrigerants and Air Conditioning” is dated August 10, 2012 (77 FR 47768). See <http://www.epa.gov/ozone/snap/refrigerants/index.html> and <http://www.epa.gov/ozone/snap/refrigerants/reflist.pdf>.

<sup>5</sup> “Protection of Stratospheric Ozone: Notice 24 for Significant New Alternatives Policy Program.” 74 Federal Register 50129, September 30, 2009. <http://www.gpo.gov/fdsys/pkg/FR-2009-09-30/html/E9-23470.htm>.

MO99 in marketing the refrigerant blend that EPA reviewed under the name ``KDD5". On October 4, 2007 (72 FR 56628), EPA found KDD5 acceptable as a substitute for HCFC-22 for a variety of end-uses. The composition of the formulation was originally requested to be confidential business information (CBI); however, the company has now removed the CBI restrictions. This blend has been given the designation R-438A in ASHRAE Standard 34. This blend is non-flammable and has ASHRAE safety classification A1.”

In this Notice of Acceptability the EPA affirmed its previous determination of acceptability regarding this particular refrigerant, and it recognized the Safety Classification A1 (nonflammable) under ASHRAE Standard 34 for this particular refrigerant.

### **Conclusion**

DuPont ISCEON<sup>®</sup> MO99<sup>™</sup> Refrigerant (R-438A) has been classified as Safety Classification A1 (nonflammable) under ASHRAE Standard 34. In its notice of acceptability, the EPA recognized that DuPont ISCEON<sup>®</sup> MO99<sup>™</sup> (R-438A) was classified as Safety Classification A1 under ASHRAE Standard 34 and was nonflammable. In addition, the EPA has reviewed and classified DuPont ISCEON<sup>®</sup> MO99<sup>™</sup> Refrigerant as “acceptable” under the EPA’s SNAP Program.

In accordance with Texas Occupations Code §1302.352, the Department will regulate the sale and use of DuPont ISCEON<sup>®</sup> MO99<sup>™</sup> Refrigerant (R-438A) consistent with the federal law and rules. Since this product has met all of the criteria above and has been classified as nonflammable, the Department has determined that Texas Occupations Code §1302.356 does not apply to this product.

While this analysis and opinion are specific to DuPont ISCEON<sup>®</sup> MO99<sup>™</sup> Refrigerant (R-438A), this same analysis would be applicable for other refrigerants and refrigerant substitutes. The Department has determined that any refrigerant or refrigerant substitute that has been classified as Safety Classification A1 (nonflammable) under ASHRAE Standard 34 AND recognized by the EPA as Safety Classification A1 (nonflammable) by rule or by notice of acceptability AND classified as acceptable under the EPA’s SNAP Program, would not fall under Texas Occupations Code §1302.356.