The Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts amendments to 30 Texas Administrative Code (TAC) §§115.470, 115.471, and 115.473.

Amended §§115.470, 115.471, and 115.473 are adopted without changes to the proposed text as published in the July 19, 2024, issue of the *Texas Register* (49 TexReg 5320) and therefore will not be republished.

The amended sections will be submitted to the United States Environmental Protection Agency (EPA) as revisions to the State Implementation Plan (SIP).

Background and Summary of the Factual Basis for the Adopted Rules

Effective November 7, 2022, EPA reclassified nonattainment areas under the 2008 ozone National Ambient Air Quality Standards (NAAQS) (87 *Federal Register* (FR) 60926). A 10-county Dallas-Fort Worth (DFW) area (Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties) and an eight-county Houston-Galveston-Brazoria (HGB) area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties) were reclassified from serious to severe nonattainment with a 2026 attainment year and an attainment deadline of July 20, 2027. Reclassification to severe nonattainment triggered emission control evaluation, emission reduction quantification, rule writing, and SIP submission requirements for the DFW and HGB 2008 ozone NAAQS nonattainment areas that were submitted to EPA on May 7, 2024, to meet the deadline established in EPA's reclassification action for the 2008 ozone NAAQS.

The adopted rule revisions address federal Clean Air Act (FCAA) contingency measure requirements for the DFW and HGB ozone nonattainment areas. Contingency measures are

control requirements that will take effect and result in emissions reductions if an area fails to attain a NAAQS by the applicable attainment date or fails to demonstrate reasonable further progress (RFP). Requirements for SIP contingency measures are established under FCAA, §172(c)(9) and §182(c)(9). This rule adoption specifically addresses the requirement for contingency measures that will take effect if either or both of the DFW and HGB nonattainment areas fail to attain or fail to demonstrate RFP under the 2008 eight-hour ozone NAAQS. Contingency measures for the DFW and HGB 2008 eight-hour ozone nonattainment areas were developed and submitted to EPA in a 30 TAC Chapter 115 rulemaking (Project No. 2023-116-115-AI) and three SIP revisions adopted April 24, 2024: the DFW 2008 Ozone NAAQS Severe Attainment Demonstration (AD) SIP Revision (Project No. 2023-107-SIP-NR), the HGB 2008 Ozone NAAQS Severe AD SIP Revision (Project No. 2023-110-SIP-NR), and the DFW-HGB 2008 Ozone NAAQS Severe RFP SIP Revision (Project No. 2023-108-SIP-NR). The contingency measures included in this rulemaking were inadvertently omitted from the Chapter 115 rulemaking adopted April 24, 2024.

Prior to adoption of the previous Chapter 115 rulemaking (Project No. 2023-116-115-AI), TCEQ staff determined there were omissions and incorrect limits in 30 TAC Chapter 115, Subchapter E, Division 7 rule revisions relating to Miscellaneous Industrial Adhesives. Omissions and incorrect limits in the rulemaking for the industrial adhesive volatile organic compounds (VOC) category resulted in an adopted industrial adhesive contingency measure that was insufficient to achieve the intended emission reductions in the associated SIP revisions. The industrial adhesives contingency measure was developed and intended to achieve VOC emissions reductions of 3.31 tons per day (tpd) in the DFW area and 3.12 tpd in the HGB area. However, the April 24, 2024, rulemaking implemented a measure that would only achieve 1.05 tpd in the DFW area and 0.99 tpd in the HGB area. The adopted rules, if triggered for contingency, will

result in additional VOC emissions reductions of 2.26 tpd in the DFW area and 2.13 tpd in the HGB area. These additional SIP contingency emissions reductions, together with the previously adopted measures (Project No. 2023-116-115-AI), achieve the total contingency emissions reductions originally intended, 3.31 tpd in the DFW area and 3.12 tpd in the HGB area. Therefore, this rulemaking restores the emissions reductions to the amounts described in the contingency plan narratives in the adopted DFW AD SIP revision (Project No. 2023-107-SIP-NR), the HGB AD SIP revision (Project No. 2023-110-SIP-NR), and the DFW-HGB RFP SIP revision (Project No. 2023-108-SIP-NR).

The adopted contingency measures apply independently and separately for the DFW and HGB 2008 ozone NAAQS nonattainment areas. Implementation of a contingency measure will be triggered upon EPA publication of a notice in the *Federal Register* that the specified area(s) failed to meet the applicable ozone NAAQS by the applicable attainment date or demonstrate RFP and the commission's subsequent publication in the *Texas Register* that compliance with the contingency measure is required. Affected sources will be required to comply with the contingency rules by no later than 270 days after *Texas Register* publication.

Demonstrating Noninterference under Federal Clean Air Act, §110(l)

Under FCAA, §110(l), EPA cannot approve a SIP revision if it "would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of." The commission provides the following information to demonstrate why the adopted changes to the Chapter 115, Subchapter E, Division 7 rules in §115.470 (relating to Applicability and Definitions) and §115.473 (relating to Control Requirements) will not negatively impact the state's progress towards attainment, interfere with control measures, or prevent reasonable further progress toward attainment of the ozone NAAQS in the DFW or

HGB nonattainment areas.

The commission adopts changes to Subchapter E, Division 7, Miscellaneous Industrial Adhesives, to implement a SIP contingency measure, as required by FCAA, §172(c)(9) and §182(c)(9). This measure, if triggered, will reduce VOC emissions in the DFW and/or HGB areas by revising VOC content limits on various types of industrial adhesives. The changes add new and revised VOC content limits in 30 TAC §115.473(e) and (f) that will apply if the contingency measure is triggered for the DFW or HGB area, respectively. These limits will, upon triggering, replace the current Chapter 115 VOC content limits in §115.473(a) for the DFW and/or HGB areas with limits taken from South Coast Air Quality Management District (SCAQMD) Rule 1168, as amended November 4, 2022.

Existing limits for industrial adhesives in 30 TAC §115.473(a) were developed to meet reasonably available control technology (RACT) requirements established by the 2008 EPA Control Techniques Guidelines (CTG) for Miscellaneous Industrial Adhesives. The emission limit recommended in the CTG is based on the 2005 version of SCAQMD Rule 1168. Since 2005, SCAQMD Rule 1168 has been amended to establish emission limits for bonding specific substrates. After the 2005 amendment of SCAQMD Rule 1168, several industry groups commented that no available adhesives could meet the VOC content limits for several categories of materials, and SCAQMD amended the rule in 2005 to allow higher interim VOC content adhesives while lower VOC content adhesives were being developed. This process continued through 2022, with multiple studies, interim limits, and revised lower VOC content limits once compliant adhesives were developed.

The six VOC content limits reduced in this rule adoption are beyond the limits in the

rulemaking adopted April 24, 2024 (Project No. 2023-116-115-AI), which were set at the interim limits for those materials categories in SCAQMD Rule 1168. The adopted limits will replace the Rule 1168 interim limits previously adopted April 24, 2024, with the SCAQMD Rule 1168 final limits for those materials categories. Changes in SCAQMD Rule 1168 since 2005 for pressure sensitive adhesive primers, adhesives to join two specialty plastics, adhesives used in the manufacturing of computer diskettes, and adhesives for structural wood components have increased VOC content limits beyond the VOC content in §115.473(a). The adhesive applications in these categories were new subcategories of previous SCAQMD Rule 1168 and TCEQ adhesive rule categories. TCEQ chose its industrial adhesive contingency measure VOC content limits to equal the SCAQMD Rule 1168 limits adopted November 4, 2022, because TCEQ agrees with SCAQMD's analysis on technological feasibility for these limits. SCAQMD's analysis can be found in SCAQMD's *Preliminary Draft Staff Report for Rule 1168 – Adhesive and Sealant Applications*, dated August 2022.

Calculated emissions reductions for this measure sum the reductions in some adhesive categories and the increases in other categories to produce net emission reductions. In this adopted rulemaking, TCEQ provides the contingency measure emission reductions in a manner that avoids negatively impacting the status of the state's progress towards attainment or preventing reasonable further progress toward attainment of the ozone NAAQS in the DFW and HGB nonattainment areas or any other applicable requirement of the FCAA.

Section by Section Discussion

In addition to the information provided above for a background and summary of the adopted rules, including a demonstration of noninterference with §110(l) of the FCAA, the commission also adopts non-substantive changes to update the rules in accordance with current *Texas*

Register style and format requirements, improve readability, establish consistency in the rules, and conform to the standards in the Texas Legislative Council Drafting Manual, September 2020. The specific substantive changes are discussed in greater detail in this Section by Section Discussion in the corresponding portions related to the affected rule sections.

Subchapter E: Solvent-Using Processes

Division 7. Miscellaneous Industrial Adhesives

The commission adopts amendments to Subchapter E, Division 7 to establish lower contingency VOC content limits for some existing industrial adhesive source categories, to add new subcategories of industrial adhesives with associated contingency measure VOC content limits, and to specify that the contingency VOC content limits, if triggered, will apply to adhesives used in the field. All contingency measure VOC content limits adopted in this rulemaking are the same or lower than the contingency measure limits added in the rulemaking adopted April 24, 2024 (Project No. 2023-116-115-AI). These amendments will be implemented in the DFW and/or HGB 2008 ozone NAAQS nonattainment areas if triggered for SIP contingency purposes.

In the rulemaking adopted April 24, 2024 (Project No. 2023-116-115-AI), staff inadvertently used interim higher VOC content limits from SCAQMD Rule 1168 for six industrial adhesive categories in Figures 30 TAC §115.473(e) and §115.473(f): acrylonitrile-butadiene-styrene (ABS) to polyvinyl chloride (PVC) Transition Cement, chlorinated polyvinyl chloride (CPVC) Welding Cement, Higher Viscosity CPVC, PVC Welding Cement, Rubber Vulcanization Adhesive, and Top and Trim Adhesive. This rulemaking corrects each of these unintended VOC content limits with limits that are more stringent, as previously intended. The rulemaking specifies that the contingency VOC content limits, if triggered, will apply to adhesives used in the field. The adopted VOC content limits and applicability specification align the SIP contingency rules in

Chapter 115 with the limits used to calculate SIP contingency measure VOC emission reductions in the SIP revisions adopted April 24, 2024: the DFW AD SIP revision (Project No. 2023-107-SIP-NR), the HGB AD SIP revision (Project No. 2023-110-SIP-NR), and the DFW-HGB RFP SIP revision (Project No. 2023-108-SIP-NR).

Four of the contingency VOC content limits included in the Chapter 115 rulemaking adopted April 24, 2024, (Project No. 2023-116-115-AI) are revised in this rulemaking to be higher than the associated non-contingency VOC content limits in existing §115.473(a): ABS to PVC Transition Cement, PVC Welding Cement, Rubber Vulcanization Adhesive, and Top and Trim Adhesive. These changes will not interfere with meeting FCAA requirements in the DFW or HGB areas, as described elsewhere in this preamble, with all changes collectively producing net emission reductions.

This rulemaking also adds 20 industrial adhesive subcategories and establishes industrial adhesive VOC content limits that, if triggered for SIP contingency purposes, will achieve VOC emissions reductions consistent with the limits used to calculate VOC emissions reductions in the SIP revisions adopted April 24, 2024: the DFW AD SIP revision (Project No. 2023-107-SIP-NR), the HGB AD SIP revision (Project No. 2023-110-SIP-NR), and the DFW-HGB RFP SIP revision (Project No. 2023-108-SIP-NR). The 20 industrial adhesive category VOC content limits were inadvertently omitted from the Chapter 115 rulemaking adopted April 24, 2024 (Project No. 2023-116-115-AI).

§115.470 Applicability and Definitions

The commission adopts this rulemaking to add a provision to §115.470(a) which, upon triggering for SIP contingency purposes for either the DFW or HGB area, or both, will make

adhesives and adhesive primers applied for compensation subject to this rule division. This is intended to exclude consumer use while including institutional, commercial, and industrial uses. It will also exclude use by volunteers such as Habitat for Humanity home builders or volunteers repairing homes without compensation. Home building and remodeling contractors will be included since they are compensated for their work applying adhesives. Adhesive use in commercial, institutional, and industrial settings is included because those uses are assumed to be for compensation. Emissions from consumer use were not included in the emissions reduction calculations for this contingency measure. Affected entities are required by §115.478(b)(1) to maintain records of VOC content to demonstrate compliance with the applicable VOC limits in §115.473(a), (e), or (f). Prior to triggering for contingency, field use of adhesives will continue not to be subject to the division.

The commission adopts this rulemaking to add 43 new definitions and to amend three existing definitions in §115.470(b). The new definitions were inadvertently omitted from the Chapter 115 rulemaking adopted April 24, 2024, (Project No. 2023-116-115-AI) and are necessary to implement VOC content limits for the industrial adhesive source categories. New definitions differentiate the new application-specific adhesives VOC content limits in adopted §115.473(e) and (f); to clarify the lower VOC content limits for existing application-specific adhesive content limits in adopted §115.473(e) and (f); to clarify the applicability of existing control requirements in §115.473(b); and to clarify the applicability of exemptions in existing §115.471(d)(2)(A), §115.471(d)(2)(G), and §115.471(d)(2)(I).

New definitions are adopted for architectural application; building envelope; building envelope membrane adhesive; carpet pad adhesive; chlorinated polyvinyl chloride (CPVC) welding or CPVC welding cement for life safety systems; computer diskette manufacturing; dry wall

adhesive; ethylene propylene diene terpolymer (EPDM) and thermoplastic polyolefin (TPO) single-ply roof membrane adhesive; glass, porcelain, and stone tile adhesive; hot applied modified bitumen or built up roof adhesive; modified bituminous material; modified bituminous primer; panel adhesive; roof adhesive primer; rubber flooring adhesive; rubber vulcanization adhesive; shingle laminating adhesive; structural glazing adhesive; structural wood member adhesive; subfloor adhesive; vinyl compositions tile (VCT); vinyl compositions tile or VCT adhesive; and wood flooring adhesive. The adopted definitions in §115.470(b) specify the meaning of VOC limits for the application-specific adhesives included in the tables in adopted §115.473(e) and §115.473(f).

The commission also adopts new definitions in §115.470(b) for acrylonitrile-butadiene-styrene (ABS); acrylonitrile-butadiene-styrene or ABS to polyvinyl chloride (PVC) transition cement; acrylonitrile-butadiene-styrene or ABS welding cement; edge glue; fiberglass; higher viscosity CPVC welding cement; pressure sensitive adhesive; tire tread adhesive; top and trim adhesive; traffic marking tape; and vehicle glass adhesive primer. The adopted definitions clarify which adhesives and primers will be subject to the lower VOC content limits in adopted §115.473(e) and (f) if triggered for contingency purposes.

The commission also adopts new definitions in §115.470(b) for dip coat; electrostatic spray; flow coat; hand application methods; high volume low-pressure (HVLP) spray; and transfer efficiency. The adopted definitions clarify the applicability of control requirements in existing §115.473(b).

The commission also adopts new terms and definitions for adhesive tapes; shoe repair, luggage, and handbag adhesive; and solvent welding in §115.470(b). The adopted terms and definitions

clarify the applicability of exemptions in existing §115.471(d)(2)(A), §115.471(d)(2)(G), and §115.471(d)(2)(I).

The commission adopts amendments to three existing definitions in §115.470(b). Language is added to the definition for chlorinated polyvinyl chloride or CPVC welding to clarify that the VOC content limit in §115.473 (e) and (f) applies to adhesives used in CPVC components for shower pan liner, drain, closet flange, and backwater valve systems as well as CPVC pipe and fittings. The commission also adopts amendments to the definitions for the existing terms indoor floor covering installation adhesive and multipurpose construction adhesive. The commission adopts amendments to each of these two definitions that maintain the existing definitions for use with the existing exemption provisions in §115.471(a) – (c) and add revised definitions for use with the exemption provisions in §115.471(d) and the control requirements in §115.473(e) and (f) if a contingency scenario is triggered in the DFW area, the HGB area, or both areas. Existing definitions in §115.470 are renumbered and reordered accordingly but are not otherwise substantively changed.

§115.471 Exemptions

The commission adopts an amendment to the last sentence of §115.471(d) to reference §115.479(c) or (d), rather than §115.479(c) or (e). This amendment correctly stipulates the compliance schedule for a contingency scenario in either the DFW or HGB area, or both areas.

§115.473 Control Requirements

The commission adopts adjustments to the VOC content limits associated with the miscellaneous industrial adhesives to correct contingency measure deficiencies in existing subsection §115.473(e) for the DFW area and §115.473(f) for the HGB area. The existing

contingency control requirements are the same for both areas and specify that the limits must be met by applying low-VOC adhesives or adhesive primers. Adopted changes correct some VOC content limits included in a Chapter 115 rulemaking adopted April 24, 2024, and add VOC content limits meant to be included in that previous rulemaking. The adopted revisions establish emissions limits in §115.473(e) and §115.473(f) that are consistent with the current SCAQMD Rule 1168, as originally intended for the previously adopted rulemaking.

Adopted VOC content limits in the architectural applications category consist of building envelope membrane adhesive; carpet pad adhesive; ceramic tile installation adhesive; cove base installation adhesive, dry wall adhesive, glass, porcelain, and stone tile adhesive; multipurpose construction adhesives; and panel adhesive.

Adopted VOC content limits in the roofing category consist of hot applied modified bitumen or built up roof adhesive, ethylene propylene diene terpolymer (EPDM) and thermoplastic polyolefin (TPO) single-ply roof membrane adhesive, single-ply roof installation and repair membrane adhesive (except EPDM and TPO), shingle laminating adhesive, and all other roof adhesives.

Other individual VOC content limits for application-specific adhesives are adopted for rubber floor adhesive, structural glazing adhesive, structural wood member adhesive, subfloor adhesive, vinyl compositions tile (VCT) and asphalt tile adhesive, wood flooring adhesive, all other indoor floor covering adhesives, and all other outdoor floor covering adhesives.

Final Regulatory Impact Determination

The commission reviewed the rulemaking in light of the regulatory impact analysis

requirements of Texas Government Code, §2001.0225, and determined that the rulemaking does not meet the definition of a "Major environmental rule" as defined in that statute, and in addition, if it did meet the definition, is not subject to the requirement to prepare a regulatory impact analysis. A "Major environmental rule" means a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure, and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. Additionally, the adopted rules do not meet any of the four applicability criteria for requiring a regulatory impact analysis for a "Major environmental rule", which are listed in Tex. Gov't Code Ann., § 2001.0225(a). Section 2001.0225 of the Texas Government Code applies only to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The specific intent of these adopted rules is to comply with federal requirements for the implementation of control strategies necessary to attain and maintain the National Ambient Air Quality Standards (NAAQS) for ozone mandated by 42 United States Code (USC), 7410, Federal Clean Air Act (FCAA), §110, and required to be included in operating permits by 42 USC, §7661a, FCAA, §502, as specified elsewhere in this preamble. The rulemaking addresses contingency measure requirements for the DFW and HGB 2008 eight-hour ozone nonattainment areas, as discussed elsewhere in this preamble. States are required to adopt State Implementation Plans (SIPs) with enforceable emission limitations and other control measures,

means, or techniques, as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of the FCAA. As discussed in the FISCAL NOTE portion of the proposal preamble, the adopted rules are not anticipated to add any significant additional costs to affected individuals or businesses, beyond what is necessary to attain the ozone NAAQS, on the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

If a state does not comply with its obligations under 42 USC, §7410, FCAA, §110 to submit SIPs, states are subject to discretionary sanctions under 42 USC, §7410(m) or mandatory sanctions under 42 USC, §7509, FCAA, §179; as well as the imposition of a federal implementation plan (FIP) under 42 USC, §7410, FCAA, §110I. Under 42 USC, §7661a, FCAA, §502, states are required to have federal operating permit programs that provide authority to issue permits and assure compliance with each applicable standard, regulation, or requirement under the FCAA, including enforceable emission limitations and other control measures, means, or techniques, which are required under 42 USC, §7410, FCAA, §110. Similar to requirements in 42 USC, §7410, FCAA, §110, states are not free to ignore requirements in 42 USC, §7661a, FCAA, §502 and must develop and submit programs to provide for operating permits for major sources that include all applicable requirements of the FCAA. Lastly, states are also subject to the imposition of sanctions under 42 USC, §7661a(d) and (i), FCAA, §502(d) and (i) for failure to submit an operating permits program, the disapproval of any operating permits program, or failure to adequately administer and enforce the approved operating permits program.

The requirement to provide a fiscal analysis of regulations in the Texas Government Code was amended by Senate Bill (SB) 633 during the 75th legislative session in 1997. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis of extraordinary rules.

These are identified in the statutory language as “Major environmental rules” that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 that concluded "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted rules from the full analysis unless the rule was a “Major environmental rule” that exceeds a federal law. Because of the ongoing need to meet federal requirements, the commission routinely proposes and adopts rules incorporating or designed to satisfy specific federal requirements. The legislature is presumed to understand this federal scheme. If each rule proposed by the commission to meet a federal requirement was considered to be a “Major environmental rule” that exceeds federal law, then each of those rules would require the full regulatory impact analysis (RIA) contemplated by SB 633. Requiring a full RIA for all federally required rules is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the LBB, the intent of SB 633 was only to require the full RIA for rules that are extraordinary in nature. While the adopted rules may have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of the FCAA, and in fact creates no additional impacts since the adopted rules do not impose burdens greater than required to demonstrate attainment of the ozone NAAQS as discussed elsewhere in this preamble. For these reasons, the adopted rules fall under the exception in Texas Government Code, §2001.0225(a), because they

are required by, and do not exceed, federal law.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code, but left this provision substantially unamended. It is presumed that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." (*Central Power & Light Co. v. Sharp*, 919 S.W.2d 485, 4 89 (Tex. App. Austin 1995), *writ denied with per curiam opinion respecting another issue*, 960 S.W.2d 617 (Tex. 1997); *Bullock v. Marathon Oil Co.*, 798 S.W.2d 353, 357 (Tex. App. Austin 1990, *no writ*). *Cf. Humble Oil & Refining Co. v. Calvert*, 414 S.W.2d 172 (Tex. 1967); *Dudney v. State Farm Mut. Auto Ins. Co.*, 9 S.W.3d 884, 893 (Tex. App. Austin 2000); *Southwestern Life Ins. Co. v. Montemayor*, 24 S.W.3d 581 (Tex. App. Austin 2000, *pet. denied*); and *Coastal Indust. Water Auth. v. Trinity Portland Cement Div.*, 563 S.W.2d 916 (Tex. 1978).) The commission's interpretation of the RIA requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance" (Texas Government Code, §2001.035). The legislature specifically identified Texas Government Code, §2001.0225 as falling under this standard.
As discussed in this analysis and elsewhere in this preamble, the commission has substantially complied with the requirements of Texas Government Code, §2001.0225. The adopted rules implement the requirements of the FCAA as discussed in this analysis and elsewhere in this preamble. The adopted rules were determined to be necessary meet FCAA SIP requirements to attain the ozone NAAQS and are required to be included in permits under 42 USC, §7661a, FCAA, §502, and will not exceed any standard set by state or federal law. These adopted rules

are not an express requirement of state law. The adopted rules do not exceed a requirement of a delegation agreement or a contract between state and federal government, as the adopted rules, if approved by EPA, will become federal law as part of the approved SIP required by 42 U.S.C. §7410, FCAA, §110. The adopted rules were not developed solely under the general powers of the agency but are authorized by specific sections of Texas Health and Safety Code, Chapter 382 (also known as the Texas Clean Air Act), and the Texas Water Code, which are cited in the STATUTORY AUTHORITY section of this preamble, including Texas Health and Safety Code, §§382.011, 382.012, and 382.017. Therefore, this rulemaking action is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225(b).

The commission invited public comment regarding the Draft Regulatory Impact Analysis Determination during the public comment period. No comments were received regarding the regulatory impact analysis determination.

Takings Impact Assessment

Under Texas Government Code, §2007.002(5), taking means a governmental action that affects private real property, in whole or in part or temporarily or permanently, in a manner that requires the governmental entity to compensate the private real property owner as provided by the Fifth and Fourteenth Amendments to the United States Constitution or §17 or §19, Article I, Texas Constitution; or a governmental action that affects an owner's private real property that is the subject of the governmental action, in whole or in part or temporarily or permanently, in a manner that restricts or limits the owner's right to the property that would otherwise exist in the absence of the governmental action; and is the producing cause of a reduction of at least 25 percent in the market value of the affected private real property, determined by comparing the market value of the property as if the governmental action is not in effect and the market value

of the property determined as if the governmental action is in effect. The commission completed a takings impact analysis for the rulemaking action under the Texas Government Code, §2007.043.

The primary purpose of this rulemaking action, as discussed elsewhere in this preamble, is to meet federal requirements for the implementation of control strategies necessary to attain and maintain the NAAQS for ozone mandated by 42 United States Code (USC), §7410, FCAA, §110, and required to be included in operating permits by 42 USC, §7661a, FCAA, §502. The rulemaking addresses contingency measure requirements for the DFW and HGB 2008 eight-hour ozone nonattainment areas, as discussed elsewhere in this preamble. States are required to adopt SIPs with enforceable emission limitations and other control measures, means, or techniques, as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of the FCAA. If a state does not comply with its obligations under 42 USC, §7410, FCAA, §110 to submit SIPs, states are subject to discretionary sanctions under 42 USC, §7410(m) or mandatory sanctions under 42 USC, §7509, FCAA, §179; as well as the imposition of a federal implementation plan under 42 USC, §7410, FCAA, §110(c). Under 42 USC, §7661a, FCAA, §502, states are required to have federal operating permit programs that provide authority to issue permits and assure compliance with each applicable standard, regulation, or requirement under the FCAA, including enforceable emission limitations and other control measures, means, or techniques, which are required under 42 USC, §7410, FCAA, §110. Similar to requirements in 42 USC, §7410, FCAA, §110, regarding the requirement to adopt and implement plans to attain and maintain the national ambient air quality standards, states are not free to ignore requirements in 42 USC, §7661a, FCAA, §502 and must develop and submit programs to provide for operating permits for major sources that include all applicable requirements of the FCAA. Lastly, states are also subject to

the imposition of sanctions under 42 USC, §7661a(d) and (i), FCAA, §502(d) and (i) for failure to submit an operating permits program, the disapproval of any operating permits program, or failure to adequately administer and enforce the approved operating permits program.

The adopted rules will not create any additional burden on private real property beyond what is required under federal law as the rules, if approved by EPA, will become federal law as part of the approved SIP required by 42 U.S.C. §7410, FCAA, §110. The adopted rules will not affect private real property in a manner that would require compensation to private real property owners under the United States Constitution or the Texas Constitution. The adopted rules also will not affect private real property in a manner that restricts or limits an owner's right to the property that would otherwise exist in the absence of the governmental action. Therefore, the rulemaking will not cause a taking under Texas Government Code, Chapter 2007.

Consistency with the Coastal Management Program

The commission reviewed the rulemaking and found that it is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 et seq., and therefore must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the rule adoption in accordance with Coastal Coordination Act Implementation Rules, 31 TAC §29.22 and found the rulemaking is consistent with the applicable CMP goals and policies. The CMP goal applicable to the rulemaking is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §26.12(l)). The CMP policy applicable to the rulemaking is the policy that commission rules comply with federal regulations in 40 CFR, to protect and enhance air quality in the coastal areas (31 TAC §26.32). The rulemaking will not increase emissions of air pollutants and is therefore consistent

with the CMP goal in 31 TAC §26.12(1) and the CMP policy in 31 TAC §26.32. Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the adopted rules are consistent with these CMP goals and policies and because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas. Therefore, in accordance with 31 TAC §29.22(e), the commission affirms that this rulemaking action is consistent with CMP goals and policies. The commission invited public comment regarding consistency with the CMP during the public comment period. No comments were received regarding the CMP.

Effect on Sites Subject to the Federal Operating Permits Program

Chapter 115 is an applicable requirement under 30 TAC Chapter 122, Federal Operating Permits Program. If the rulemaking is adopted, owners or operators of affected sites subject to the federal operating permit program must, consistent with the revision process in Chapter 122, upon the effective date of the rulemaking, revise their operating permit to include the new Chapter 115 requirements.

Public Comment

The public comment period for the proposed rulemaking opened June 14, 2024, and closed July 29, 2024. TCEQ offered a virtual public hearing on July 25, 2024, at 10:00 a.m.; however, no individuals registered to provide testimony, and the hearing was not opened. During the comment period, the commission received comments from Texans for Environmental Awareness (TEA) recommending changes to the rule revision.

In this response to comments, the commission uses “HGB area” to refer to the 2008 eight-hour

ozone nonattainment area, consisting of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, unless otherwise specified. "DFW area" refers to the 2008 eight-hour ozone nonattainment area consisting of Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties, unless otherwise indicated.

Response to Comments

Comment

TEA recommended that the commission implement limits that align with EPA's *Control Techniques Guidelines for Miscellaneous Industrial Adhesives* and provided example limits from those guidelines: general adhesives limits of 30 grams/liter (g/l) or lower; contact adhesives limits of 70 g/l or lower; and adhesive primer limits of 250 g/l or lower.

Response

TCEQ's existing industrial adhesive VOC limits in 30 TAC §115.473(a) mirror EPA's *Control Techniques Guidelines for Miscellaneous Industrial Adhesives* Reasonably Available Control Technology (RACT) limits. The industrial adhesive contingency measure VOC content limits in this rulemaking parallel the South Coast Air Quality Management District's (SCAQMD's) most recent (2023) limits. The SCAQMD's limits produce lower emissions from this sector than EPA's *Control Techniques Guidelines for Miscellaneous Industrial Adhesives.* Changes made to the VOC content limits do not adversely affect emission reductions and are intended to produce net emission reductions for the DFW and HGB areas when triggered for SIP contingency purposes, as described in the rule preamble.

Two of the three example CTG limits TEA provided are not consistent with EPA's *Control Techniques Guidelines for Miscellaneous Industrial Adhesives*. TEA correctly stated EPA's

CTG limit for general adhesives primers, which is also the contingency limit at existing §115.473(e) and (f), the limit in adopted §115.473(e) and (f), and is consistent with the existing non-contingency limit at §115.473(a). TEA's example limit for general adhesives, 30 g/l or lower, does not correspond to EPA's CTG limit for general adhesives of 250 g/l. The contingency general adhesive limits in existing and adopted §115.473(e) and (f) match the CTG, and the non-contingency limit at existing §115.473(a) is also consistent with the CTG limit. This matches the SCAQMD limit, and TCEQ agrees that this is the lowest VOC content currently feasible for general adhesives.

TEA's recommended 70 g/l or lower limit for contact adhesives is also not the limit included in EPA's CTG, which is 250 g/l. The non-contingency limit at §115.473(a) is consistent with the CTG limit, but the contingency limit in existing and adopted §115.473(e) and (f) will lower that limit to 80 g/l if triggered for SIP contingency purposes. This matches the SCAQMD limit, and TCEQ agrees that this is the lowest VOC content currently feasible for general contact adhesives.

No changes were made in response to this comment.

Comment

TEA recommended the use of application methods and equipment to minimize VOC emissions, including systems that use brush, roll coat, and automated spray application methods.

Response

Existing control requirements for industrial adhesives require use of high transfer efficiency application methods that limit VOC emissions. These methods, outlined in

§115.473(b), include electrostatic spray, high-volume, low-pressure spray (HVLP), flow coat, roll coat, hand application (including brush coat), dip coat, airless spray, and air-assisted airless spray. Other application methods must be equivalent or more efficient than HVLP spray applications.

No changes were made in response to these comments.

Comment

TEA recommended the implementation of monitors and detectors such as the Continuous Emissions Monitoring Systems (CEMS), photoionization detectors, and flame ionization detectors, to measure VOC concentrations continuously and accurately. TEA also commented that regular performance tests should be required to ensure properly functioning monitoring equipment.

Response

Applicable testing and monitoring requirements for miscellaneous industrial adhesives are specified in §115.475 and §115.478, which are not included in this rulemaking. This comment is outside the scope of the rulemaking.

No changes were made in response to this comment.

Comment

TEA commented that proper ventilation, maintenance of equipment, and covered storage for VOC-containing materials should be part of required work practices.

Response

Existing work practice requirements for miscellaneous industrial adhesives are outlined in §115.473(c), wherein closed containers are required for VOC-containing materials during storage and mixing. VOC-containing materials must also be transported in closed containers or pipes. If a vapor control system is in place, owner/operators must maintain and test the equipment to comply with the required capture and control efficiencies outlined in existing §115.475(3) and (4). The reductions in VOC emissions associated with the adopted rules are intended to be achieved from lowering the VOC content of industrial adhesives with the current work practices.

Comment

TEA recommended that low-VOC or VOC-free adhesives or spray equipment that meets high-efficiency transfer standards be used.

Response

Use of low-VOC adhesives are required by existing §115.473(a)(1) according to the limits in Figure: 30 TAC §115.473(a). Provisions for spray equipment that meets high-efficiency transfer standards are currently required under §115.473(b). Under a contingency triggering scenario, VOC content limits in §115.473(e) and (f) would apply, as listed in Figure: 30 TAC §115.473(e) for the DFW area and Figure: 30 TAC §115.473(f) for the HGB area. These new limits are lower for some applications and include more categories of adhesives.

No changes were made in response to this comment.

Comment

TEA recommended that detailed logs of VOC use, emissions, and maintenance be required for full transparency and accountability.

Response

Applicable monitoring and recordkeeping requirements for miscellaneous industrial adhesives sufficient to assure compliance are specified in §115.478, which was not included in this rulemaking. This comment is outside the scope of the rulemaking.

No changes were made in response to this comment.

Comment

TEA commented on the need to implement more stringent regulations for emergency releases.

Response

Establishing stricter regulations for VOC emissions during emergency releases and requiring mandatory reporting and immediate corrective actions for emergency releases are considered outside the scope of this rule revision. Emergency release reporting and corrective action provisions are found in 30 TAC Chapter 101, Subchapter F.

No changes were made in response to this comment.

Comment

TEA recommended that the commission remove or minimize the exemptions for industrial processes currently allowed to emit significant amounts of VOC without regulation. TEA commented on small facility exemptions, recommending that small facilities contributing to

VOC emissions be subject to monitoring and control techniques. TEA also commented that regulations should be applicable to all regions in Texas without exemptions.

Response

The purpose of this rulemaking is to amend/add provisions intended to be included in the previous rulemaking (Project Number 2023-116-115-AI) to implement contingency plans for the 2008 ozone NAAQS nonattainment areas. The current rule, with amendments recently adopted April 24, 2024, removed the 3.0 ton per year small facility exemption to generate emission reductions needed for SIP contingency purposes. Non-exempt sites would be subject to control and other applicable requirements if the contingency measure is triggered, as requested by TEA. Additional controls beyond those needed to achieve a complete contingency plan in the DFW and HGB areas, as included in the three SIP revisions adopted April 24, 2024—the DFW 2008 Ozone NAAQS Severe Attainment Demonstration (AD) SIP Revision (Project No. 2023-107-SIP-NR), the HGB 2008 Ozone NAAQS Severe AD SIP Revision (Project No. 2023-110-SIP-NR), and the DFW-HGB 2008 Ozone NAAQS Severe RFP SIP Revision (Project No. 2023-108-SIP-NR)—are outside the scope of this rulemaking. If emission reductions are needed in other areas of Texas for other purposes, the commission may consider expanding the geographic applicability of these reduced VOC content limits and remove exemptions in subsequent rulemaking.

No changes were made in response to this comment.

Comment

TEA recommended that the commission involve communities in both monitoring and decision-making processes as well as in educational initiatives.

Response

TCEQ offers several opportunities for engaging with the local community and also provides educational outreach. For example, with regard to engagement of the public in the air monitoring area, the public can comment on TCEQ's annual air monitoring network plans and five year assessments, which are posted for 30 days to gather feedback from the public before submission to EPA. TCEQ also offers educational outreach related to air quality and pollution prevention through programs like "Take Care of Texas." TCEQ strives to offer engagement opportunities to all persons, including those in vulnerable communities, and strives to ensure that all persons can participate meaningfully in TCEQ programs and activities through public participation, including appropriate accommodations when needed to ensure language access needs and Title VI of the Civil Rights Act of 1964 requirements are met.

Opportunities for local communities to engage in and provide input on this rulemaking were offered to the public by means of a virtual public hearing on July 25, 2024, at 10:00 a.m., accessible to all populations. Hearing notices were published in *The Dallas Morning News* and the *Houston Chronicle* newspapers in English and in *Al Día* and *La Voz* newspapers in Spanish. Additionally, two Spanish language interpreters were present during the public hearing and provided interpretation services to be inclusive of persons with limited English proficiency. Various methods were made available for the public to provide comments on the rulemaking. Methods included providing comments in writing by mail, fax, e-mail, and online during the comment period, which closed on July 29, 2024.

No changes were made in response to this comment.

Comment

TEA recommended that the commission provide incentives and technical assistance to facilities that transition to low-VOC adhesives and technologies.

Response

The commission offers free technical assistance to small businesses from the section, including the EnviroMentor programs. Alongside others, these programs offered by the commission may assist facilities transitioning to low-VOC adhesives and new technologies.

No changes were made in response to this comment.

SUBCHAPTER E: SOLVENT-USING PROCESSES
DIVISION 7: MISCELLANEOUS INDUSTRIAL ADHESIVES
§§115.470, 115.471, 115.473

Statutory Authority

The amendments are adopted under Texas Water Code (TWC), §5.102, concerning general powers; §5.103, concerning Rules; TWC, §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §7.002, concerning Enforcement Authority, which authorizes the commission to enforce the provisions of the Water Code and the Health and Safety Code within the commission's jurisdiction; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, which authorizes the commission to adopt rules consistent with the policy and purpose of the Texas Clean Air Act.

The amendments are also adopted under THSC, §382.002, concerning Policy and Purpose, which establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; THSC, §382.011, concerning General Powers and Duties, which authorizes the commission to control the quality of the state's air; THSC, §382.012, concerning the State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air; THSC, §382.016, concerning Monitoring Requirements; Examination of Records, which authorizes the commission to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants; and THSC, §382.021, concerning Sampling Methods and Procedures.

The adopted amendments implement TWC, §§5.102, 5.103, and 7.002; and THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021.

§115.470. Applicability and Definitions.

(a) Applicability. Except as specified in §115.471 of this title (relating to Exemptions), the requirements in this division apply to the owner or operator of a manufacturing operation using adhesives or adhesive primers for any of the application processes specified in §115.473 of this title (relating to Control Requirements) in the Bexar County, Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions). Adhesives or adhesive primers applied in the field (e.g., construction jobs in the field) are not subject to this division. If the commission publishes notice in the *Texas Register*, as provided in §115.479(c) of this title (relating to Compliance Schedules) for either the Dallas-Fort Worth area, or §115.479(d) of this title for the Houston-Galveston-Brazoria area, or both areas, to require compliance with the contingency measure control requirements of §115.473(e) of this title (relating to Control Requirements) for the Dallas-Fort Worth area and/or §115.473(f) of this title for the Houston-Galveston-Brazoria area, all adhesives or adhesive primers applied for compensation, regardless of location within the specified area, are subject to this division as of the compliance date specified in §115.479(c) or (d) of this title.

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, or 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply in this division unless the context clearly indicates otherwise.

(1) Acrylonitrile-butadiene-styrene (ABS)--A plastic that is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an ABS marking.

(2) Acrylonitrile-butadiene-styrene or ABS welding--Any process to weld acrylonitrile-butadiene-styrene pipe.

(3) Acrylonitrile-butadiene-styrene or ABS to polyvinyl chloride (PVC) transition cement--A plastic welding cement used to join ABS and PVC building drains or building sewers.

(4) Acrylonitrile-butadiene-styrene or ABS welding cement--A plastic welding cement that is used to join ABS pipe, fittings, and other system components, including, but not limited to, components for shower pan liner, drain, closet flange, and backwater valve systems.

(5) Adhesive--Any chemical substance applied for the purpose of bonding two surfaces together other than by mechanical means.

(6) Adhesive primer--Any product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

(7) Adhesive tape--A backing material coated with an adhesive, and includes, but is not limited to, drywall tape, heat sensitive tape, pressure-sensitive adhesive tape, and water-activated tape.

(8) Aerosol adhesive or adhesive primer--An adhesive or adhesive primer packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

(9) Aerospace component--Any fabricated part, processed part, assembly of parts, or completed unit of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles. This definition includes electronic components.

(10) Architectural application--The use of adhesives or adhesive primers or both adhesive primers and adhesives on stationary structures, or their appurtenances including but not limited to mobile homes, hand railings; cabinets; bathroom and kitchen fixtures; fences; rain-gutters and down-spouts; window screens; lampposts; heating and air conditioning equipment; other mechanical equipment; large fixed stationary tools; signs; motion picture and television production sets; and concrete forms.

(11) Application process--A series of one or more application systems and any associated drying area or oven where an adhesive or adhesive primer is applied, dried, or cured. An application process ends at the point where the adhesive is dried or cured, or prior to any subsequent application of a different adhesive. It is not necessary for an application process to have an oven or flash-off area.

(12) Application system--Devices or equipment designed for the purpose of applying an adhesive or adhesive primer to a surface. The devices may include, but are not limited to, brushes, sprayers, flow coaters, dip tanks, rollers, and extrusion coaters.

(13) Building envelope--The exterior and demising partitions of a building that enclose conditioned space.

(14) Building envelope membrane adhesive--An adhesive used to adhere membranes applied to the building envelope to provide a barrier to air or vapor leakage through the building envelope that separates conditioned from unconditioned spaces. Building envelope membranes are applied to diverse materials, including, but not limited to, concrete masonry units, oriented stranded board, gypsum board, and wood substrates.

(15) Carpet pad adhesive--An adhesive used for the installation of a carpet pad (or cushion) beneath a carpet.

(16) Ceramic tile installation adhesive--Any adhesive intended by the manufacturer for use in the installation of ceramic tiles.

(17) Chlorinated polyvinyl chloride plastic or CPVC plastic welding--A polymer of the vinyl chloride monomer that contains 67% chlorine and is normally identified with a chlorinated polyvinyl chloride marking.

(18) Chlorinated polyvinyl chloride or CPVC welding cement for life safety systems--A CPVC welding cement with an increased resistance to high temperatures which is used for life safety systems, including standalone and multipurpose fire sprinkler systems.

(19) Chlorinated polyvinyl chloride welding or CPVC welding--An adhesive labeled for welding of chlorinated polyvinyl chloride that is used to join CPVC pipe, fittings, and other system components, including, but not limited to, components for shower pan liner, drain, closet flange, and backwater valve systems.

(20) Computer diskette manufacturing--The process where the fold-over flaps are glued to the body of a vinyl jacket.

(21) Contact adhesive--An adhesive:

(A) designed for application to both surfaces to be bonded together;

(B) allowed to dry before the two surfaces are placed in contact with each other;

(C) forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other;

(D) does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces; and

(E) does not include rubber cements that are primarily intended for use on paper substrates or vulcanizing fluids that are designed and labeled for tire repair only.

(22) Cove base--A flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

(23) Cove base installation adhesive--Any adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

(24) Cyanoacrylate adhesive--Any adhesive with a cyanoacrylate content of at least 95% by weight.

(25) Daily weighted average--The total weight of volatile organic compounds (VOC) emissions from all adhesives or adhesive primers subject to the same VOC content limit in §115.473(a) of this title (relating to Control Requirements), divided by the total volume of those adhesives or adhesive primers (minus water and exempt solvent) delivered to the application system each day. Adhesives or adhesive primers subject to different emission standards in §115.473(a) of this title must not be combined for purposes of calculating the daily weighted average. In addition, determination of compliance is based on each adhesive or adhesive primer application process.

(26) Dip coat--A method of application to a substrate by submersion into, and removal from, a bath.

(27) Dry wall adhesive--An adhesive used during the installation of gypsum dry wall to studs or solid surfaces.

(28) Edge glue--An adhesive applied to the edge of multi-sheet carbonless forms prior to being fanned apart after drying.

(29) Electrostatic spray--A spray method where the atomized droplets are charged and subsequently deposited on the substrate by electrostatic attraction.

(30) Ethylene propylene diene terpolymer (EPDM) and thermoplastic polyolefin (TPO) single-ply roof membrane adhesive--Any adhesive to be used for the installation or repair of ethylene propylene diene terpolymer (EPDM) and thermoplastic polyolefin (TPO) single-ply roof membrane. Installation includes, but is not limited to, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes, or ducts that protrude through the membrane.

(31) Ethylene propylene diene monomer roof membrane--A prefabricated single sheet of elastomeric material composed of ethylene propylene diene monomer and that is field-applied to a building roof using one layer or membrane material.

(32) Fiberglass--A material composed of fine filaments of glass.

(33) Flexible vinyl--Non-rigid polyvinyl chloride plastic with a 5.0% by weight plasticizer content.

(34) Flow coat--An application method that coats an object by flowing a stream of an adhesive or adhesive primers or both adhesive primers and adhesives over the object and draining off any excess.

(35) Glass, porcelain, and stone tile adhesive--Any adhesive used for the installation of tile products.

(36) Hand application methods--The application of adhesives or adhesive primers or both adhesive primers and adhesives using handheld equipment. Such equipment includes paint brush, hand roller, trowel, spatula, dauber, rag, sponge, and mechanically- and/or pneumatic-driven syringe provided there is no atomization of the materials.

(37) High-volume, low-pressure (HVLP) spray--Application method to apply adhesives or adhesive primers or both adhesive primers and adhesives by means of a spray gun that is designed to be operated between 0.1 and 10 pounds per square inch gauge air pressure measured dynamically at the center of the air cap and at the air horns.

(38) Higher viscosity CPVC welding cement--A CPVC welding cement with a viscosity greater than or equal to 500 centipoise.

(39) Hot applied modified bitumen or built up roof adhesive—A thermoplastic hot melt adhesive which requires high temperature conversion to a fluid at the point of application and complies with ASTM International Test Method D312 or D6152. Installation or repair includes the application of roofing insulation, roofing ply sheets, roofing membranes, and aggregate surfacing.

(40) Indoor floor covering installation adhesive--Any adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl-backed carpet, resilient sheet and roll, or artificial grass. Adhesives used to install ceramic tile and perimeter-bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl, are excluded from this definition. In the context of the provisions of §115.471(d) of this title (relating to Exemptions), and §115.473(e) and (f) of this title (relating to Control Requirements), indoor floor covering installation adhesive is defined as any adhesive used during the installation of a carpet or indoor flooring that is in an enclosure and is not exposed to ambient weather conditions during normal use.

(41) Laminate--A product made by bonding together two or more layers of material.

(42) Metal to urethane/rubber molding or casting adhesive--Any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.

(43) Modified bituminous material--A material obtained from natural deposits of asphalt or residues from the distillation of crude oil petroleum or coal which consist mainly of hydrocarbons, and include, but are not limited to, asphalt, tar, pitch, and asphalt tile that are soluble in carbon disulfide.

(44) Modified bituminous primer--A primer coating consisting of bituminous materials, and a high flash solvent used to prepare a surface by improving the adhesion and absorbing dust from the surface for adhesive or flashing cement bitumen membrane.

(45) Motor vehicle adhesive--An adhesive, including glass-bonding adhesive, used in a process that is not an automobile or light-duty truck assembly coating process, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

(46) Motor vehicle glass-bonding primer--A primer, used in a process that is not an automobile or light-duty truck assembly coating process, applied to windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass-bonding adhesives or the installation of adhesive-bonded glass. Motor vehicle glass-bonding primer includes glass-bonding/cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of adhesive or the installation of adhesive-bonded glass.

(47) Motor vehicle weatherstrip adhesive--An adhesive, used in a process that is not an automobile or light-duty truck assembly coating process, applied to weatherstripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

(48) Multipurpose construction adhesive--Any adhesive intended by the manufacturer for use in the installation or repair of multiple construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile. In the context of the provisions of §115.471(d) of this title (related to Exemptions), and §115.473(e), and (f) of this title (related to Control Requirements),

multipurpose construction adhesive is defined as adhesives designated by the manufacturer to be used to adhere multiple different substrates together. Adhesives such as ABS to CPVC transition cement; carpet pad adhesive; glass, porcelain, and stone tile adhesive; or adhesives used to install ceramic tile and perimeter-bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl, are excluded from this definition.

(49) Outdoor floor covering installation adhesive--Any adhesive intended by the manufacturer for use in the installation of floor covering that is not in an enclosure and that is exposed to ambient weather conditions during normal use.

(50) Panel adhesive--An adhesive used for the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces.

(51) Panel installation--The installation of plywood, pre-decorated hardboard or tileboard, fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

(52) Perimeter bonded sheet flooring installation--The installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

(53) Plastic solvent welding adhesive--Any adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces.

(54) Plastic solvent welding adhesive primer--Any primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

(55) Plastic foam --Foam constructed of plastics.

(56) Plastics--Synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, or reinforcers and are capable of being molded, extruded, cast into various shapes and films, or drawn into filaments.

(57) Polyvinyl chloride plastic or PVC plastic--A polymer of the chlorinated vinyl monomer that contains 57% chlorine.

(58) Polyvinyl chloride welding adhesive or PVC welding adhesive--Any adhesive intended by the manufacturer for use in the welding of polyvinyl chloride plastic pipe.

(59) Porous material--A substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged, including, but not limited to, paper and corrugated paperboard. For the purposes of this definition, porous material does not include wood.

(60) Pounds of volatile organic compounds (VOC) per gallon of adhesive (minus water and exempt solvent)--The basis for content limits for application processes that can be calculated by the following equation:

Figure: 30 TAC §115.470(b)(60)

(61) Pounds of volatile organic compounds (VOC) per gallon of solids--The basis for content limits for application processes that can be calculated by the following equation:

Figure: 30 TAC §115.470(b)(61)

(62) Pressure sensitive adhesive--An adhesive, typically coated on backings or release liners that forms a bond when pressure is applied, without the need for solvent, water, or heat.

(63) Reinforced plastic composite--A composite material consisting of plastic reinforced with fibers.

(64) Roof adhesive primer--A film-forming material applied to a substrate, prior to the application of an adhesive or adhesive tape to increase adhesion or bond strength, promote wetting, or form a chemical bond with a subsequently applied adhesive and is marketed and sold exclusively for the installation or repair of roofing materials.

(65) Rubber--Any natural or manmade rubber substrate, including, but not limited to, styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.

(66) Rubber flooring adhesive--An adhesive that is used for the installation of flooring material in which both the back and top surfaces are made of synthetic rubber, and which may be in sheet or tile form.

(67) Rubber vulcanization adhesive--A reactive adhesive used for rubber-to-substrate bonding achieved during vulcanization of the rubber elastomer at temperatures greater than 250˚F. Vulcanized rubber adhesive does not include bonding previously vulcanized rubber.

(68) Sheet rubber lining installation--The process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion. These processes also include laminating sheet rubber to fabric by hand.

(69) Shingle laminating adhesive--An asphalt based thermoplastic hot melt adhesive used to adhere individual layers during the manufacture of multi-layer asphalt shingles.

(70) Shoe repair, luggage, and handbag adhesive--An adhesive used to repair worn, torn, or otherwise damaged uppers, soles, and heels of shoes, or for making repairs to luggage and handbags.

(71) Single-ply roof membrane--A prefabricated single sheet of rubber, normally ethylene propylene diene terpolymer, that is field-applied to a building roof using one layer of membrane material. For the purposes of this definition, single-ply roof membrane does not include membranes prefabricated from ethylene propylene diene monomer.

(72) Single-ply roof membrane installation and repair adhesive--Any adhesive labeled for use in the installation or repair of single-ply roof membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes, and ducts that protrude through the membrane. Repair includes gluing the edges of torn membrane together, attaching a patch over a hole, and reapplying flashings to vents, pipes, or ducts installed through the membrane.

(73) Single-ply roof membrane adhesive primer--Any primer labeled for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

(74) Solvent welding--The softening of the surfaces of two substrates by wetting them with solvents or adhesives or both and joining them together through a chemical reaction or series of reactions to form a fused union.

(75) Specialty adhesives--A contact adhesive that is used to bond all of the following substrates to any surface: melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber, and wood veneer 1/16 inch or less in thickness.

(76) Structural glazing--A process that includes the application of adhesive to bond glass, ceramic, metal, stone, or composite panels to exterior building frames.

(77) Structural glazing adhesive--An adhesive used to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.

(78) Structural wood member adhesive--An adhesive used for the construction of any load bearing joints in wooden joists, trusses, or beams.

(79) Subfloor adhesive--is an adhesive used for the installation of subflooring material over floor joists.

(80) Subfloor installation--The installation of subflooring material over floor joists, including the construction of any load-bearing joists. Subflooring is covered by a finish surface material.

(81) Thin metal laminating adhesive--Any adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 mil.

(82) Tire repair--A process that includes expanding a hole, tear, fissure, or blemish in a tire casing by grinding or gouging, applying adhesive, and filling the hole or crevice with rubber.

(83) Tire tread adhesive--Any adhesive to be applied to the back of precured tread rubber and to the casing and cushion rubber, or to be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

(84) Top and trim adhesive--An adhesive used during the installation of automotive and marine trim, including, but not limited to, headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering, and upholstery.

(85) Traffic marking tape--Preformed reflective tape that is applied to public streets, highways, and other surfaces, including, but not limited to, curbs, berms, driveways, and parking lots.

(86) Transfer efficiency--The ratio of the amount of adhesive or adhesive primer adhering to an object to the total weight or volume, respectively, of the solids dispensed in the application process, expressed as a percentage.

(87) Undersea-based weapon system components--The fabrication of parts, assembly of parts or completed units of any portion of a missile launching system used on undersea ships.

(88) Vehicle glass adhesive primer--A primer applied to vehicle glass or to the frame of a vehicle prior to installation or repair of the vehicle glass using an adhesive or sealant to improve adhesion to the pinch weld. For the purposes of this definition, a vehicle is a mobile machine that transports passengers or cargo, and includes, but is not limited to, automobiles, trucks, buses, motorcycles, trains, ships, and boats.

(89) Vinyl compositions tile (VCT)--A material made from thermoplastic resins, fillers, and pigments.

(90) Vinyl compositions tile adhesive or VCT adhesive--An adhesive that is used for the installation of VCT material.

(91) Waterproof resorcinol glue--A two-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

(92) Wood flooring adhesive--an adhesive used to install a wood floor surface, which may be in the form of parquet tiles, wood planks, or strip-wood.

§115.471. Exemptions.

(a) Except as specified in subsection (d) of this section, the owner or operator of application processes located on a property with actual combined emissions of volatile organic compounds (VOC) less than 3.0 tons per calendar year, when uncontrolled, from all adhesives, adhesive primers, and solvents used during related cleaning operations, is exempt from the requirements of this division, except as specified in §115.478(b)(2) of this title (relating to Monitoring and Recordkeeping Requirements). When calculating the VOC emissions, adhesives and adhesive primers that are exempt under subsections (b) and (c) of this section are excluded.

(b) Except as specified in subsection (d) of this section, the following application processes are exempt from the VOC limits in §115.473(a) of this title (relating to Control Requirements) and the application system requirements in §115.473(b) of this title:

(1) adhesives or adhesive primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory;

(2) adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace components or undersea-based weapon system components;

(3) adhesives or adhesive primers used in medical equipment manufacturing operations;

(4) cyanoacrylate adhesive application processes;

(5) aerosol adhesive and aerosol adhesive primer application processes;

(6) polyester-bonding putties used to assemble fiberglass parts at fiberglass boat manufacturing properties and at other reinforced plastic composite manufacturing properties; and

(7) processes using adhesives and adhesive primers that are supplied to the manufacturer in containers with a net volume of 16 ounces or less or a net weight of 1.0 pound or less.

(c) Except as specified in subsection (d) of this section, the owner or operator of any process or operation subject to another division of this chapter that specifies VOC content limits for adhesives or adhesive primers used during any of the application processes listed in §115.473(a) of this title, is exempt from the requirements in this division. Adhesives and adhesive primers used for miscellaneous metal and plastic parts surface coating processes in §115.453(a)(1)(C) - (F) and (2) of this title (related to Control Requirements) meeting a specialty application process definition in §115.470 of this title (relating to Applicability and Definitions) are not included in this exemption. Contact adhesives are not included in this exemption. When an adhesive or adhesive primer meets more than one adhesive application process definition in §115.470 of this title, the least stringent applicable VOC content limit applies.

(d) If the commission publishes notice in the *Texas Register*, as provided either in §115.479(c) of this title (relating to Compliance Schedules) for the Dallas-Fort Worth area or §115.479(d) of this title for the Houston-Galveston-Brazoria area, or both areas, to require compliance with the contingency measure control requirements of §115.473(e) of this title for the Dallas-Fort Worth area and/or §115.473(f) of this title for the Houston-Galveston-Brazoria area, then the exemptions in subsections (a) - (c) of this section are no longer available, and the following exemptions apply in the applicable area as of the compliance date specified in §115.479(c) or (d) of this title.

(1) The owner or operator of application processes who demonstrates that the total volume of noncompliant products, including all adhesives, adhesive primers, and solvents used during related cleaning operations, located on the property is less than 55 gallons per calendar year is exempt from the requirements of this division, except as specified in §115.478(b)(2) of this title. The owner or operator may not use this paragraph to exclude

noncompliant adhesives used in architectural applications; contact adhesives; special purpose contact adhesives; adhesives used on porous substrates; rubber vulcanization adhesives and top and trim adhesives.

(2) The requirements in §115.473(e) and (f) do not apply to:

(A) adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace components;

(B) adhesive tape;

(C) aerosol adhesives and primers dispensed from non-refillable aerosol spray systems;

(D) regulated products sold in quantities of one fluid ounce or less;

(E) adhesives used to glue flowers to parade floats;

(F) adhesives used to fabricate orthotics and prosthetics under a medical doctor's prescription;

(G) shoe repair, luggage, and handbag adhesives;

(H) research and development programs and quality assurance labs;

(I) solvent welding operations used in the manufacturing of medical devices; or

(J) adhesives used in tire repair.

§115.473. Control Requirements.

(a) The owner or operator shall limit volatile organic compounds (VOC) emissions from all adhesives and adhesive primers used during the specified application processes to the following VOC content limits in pounds of VOC per gallon of adhesive (lb VOC/gal adhesive) (minus water and exempt solvent compounds), as delivered to the application system. These limits are based on the daily weighted average of all adhesives or adhesive primers delivered to the application system each day. If an adhesive or adhesive primer is used to bond dissimilar substrates together, then the applicable substrate category with the least stringent VOC content limit applies. The requirements in this subsection are replaced with the requirements in subsection (e) of this section in the Dallas-Fort Worth area upon the compliance date specified in §115.479(c) of this title (relating to Compliance Schedules) or with the requirements in subsection (f) of this section in the Houston-Galveston-Brazoria area upon the compliance date specified in §115.479(d) of this title.

Figure: 30 TAC §115.473(a) (No Change)

(1) The owner or operator shall meet the VOC content limits in this subsection by using one of the following options.

(A) The owner or operator shall apply low-VOC adhesives or adhesive primers.

(B) The owner or operator shall apply adhesives or adhesive primers in combination with the operation of a vapor control system.

(2) As an alternative to paragraph (1) of this subsection, the owner or operator may operate a vapor control system capable of achieving an overall control efficiency of 85% of the VOC emissions from adhesives and adhesive primers. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.475(3) and (4) of this title (relating to Approved Test Methods and Testing Requirements). If the owner or operator complies with the overall control efficiency option under this paragraph, then the owner or operator is exempt from the application system requirements of subsection (b) of this section.

(3) An owner or operator applying adhesives or adhesive primers in combination with a vapor control system to meet the VOC content limits in paragraph (1) of this subsection, shall use the following equation to determine the minimum overall control efficiency necessary to demonstrate equivalency. Control device and capture efficiency testing must be performed in accordance with the testing requirements in §115.475(3) and (4) of this title.

Figure: 30 TAC §115.473(a)(3) (No Change)

(b) The owner or operator of any application process subject to this division shall not apply adhesives or adhesive primers unless one of the following application systems is used:

(1) electrostatic spray;

(2) high-volume, low-pressure spray (HVLP);

(3) flow coat;

(4) roll coat or hand application, including non-spray application methods similar to hand or mechanically powered caulking gun, brush, or direct hand application;

(5) dip coat;

(6) airless spray;

(7) air-assisted airless spray; or

(8) other application system capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray. For the purpose of this requirement, the transfer efficiency of HVLP spray is assumed to be 65%. The owner or operator shall demonstrate that either the application system being used is equivalent to the transfer efficiency of an HVLP spray or that the application system being used has a transfer efficiency of at least 65%.

(c) The following work practices apply to the owner or operator of each application process subject to this division.

(1) For the storage, mixing, and handling of all adhesives, adhesive primers, thinners, and adhesive-related waste materials, the owner or operator shall:

(A) store all VOC-containing adhesives, adhesive primers, and process-related waste materials in closed containers;

(B) ensure that mixing and storage containers used for VOC-containing adhesives, adhesive primers, and process-related waste materials are kept closed at all times;

(C) minimize spills of VOC-containing adhesives, adhesive primers, and process-related waste materials; and

(D) convey VOC-containing adhesives, adhesive primers, and process-related waste materials from one location to another in closed containers or pipes.

(2) For the storage, mixing, and handling of all surface preparation materials and cleaning materials, the owner or operator shall:

(A) store all VOC-containing cleaning materials and used shop towels in closed containers;

(B) ensure that storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials;

(C) minimize spills of VOC-containing cleaning materials;

(D) convey VOC-containing cleaning materials from one location to another in closed containers or pipes; and

(E) minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

(d) An application process that becomes subject to subsection (a) of this section by exceeding the exemption limits in §115.471(a) of this title (relating to Exemptions) is subject to the provisions in subsection (a) of this section even if throughput or emissions later fall below exemption limits unless emissions are maintained at or below the controlled emissions level achieved while complying with subsection (a) of this section and one of the following conditions is met.

(1) The project that caused a throughput or emission rate to fall below the exemption limits in §115.471(a) of this title must be authorized by a permit, permit amendment, standard permit, or permit by rule required by Chapters 106 or 116 of this title (relating to Permits by Rule; and Control of Air Pollution by Permits for New Construction or Modification, respectively). If a permit by rule is available for the project, the owner or operator

shall continue to comply with subsection (a) of this section for 30 days after the filing of documentation of compliance with that permit by rule.

(2) If authorization by permit, permit amendment, standard permit, or permit by rule is not required for the project, the owner or operator shall provide the executive director 30 days notice of the project in writing.

(e) In accordance with the compliance schedule for contingency requirements in §115.479(c) of this title in the Dallas-Fort Worth area, the owner or operator shall apply low-VOC adhesives or adhesive primers to limit VOC emissions from all adhesives and adhesive primers used during the specified application processes to the VOC content limits listed in the tables in this subsection in grams of VOC per liter of adhesive (minus water and exempt solvent compounds), as delivered to the application system. If an adhesive or adhesive primer is used to bond dissimilar substrates together, then the applicable substrate category with the least stringent VOC content limit applies.

Figure: 30 TAC §115.473(e)

Table 1.	
Application Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Architectural Applications	
Building Envelope Membrane Adhesive	250
Carpet Pad Adhesive	50
Ceramic Tile Installation Adhesive	65
Cove Base Installation Adhesive	50

Table 1.	
Application Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Dry Wall Adhesive	50
Glass, Porcelain, and Stone Tile Adhesive	65
Multipurpose Construction Adhesive	70
Panel Adhesive	50
Roofing	
Hot Applied Modified Bitumen or Built Up Roof Adhesive	30
EPDM/TPO Single-Ply Roof Membrane Adhesive	250
Single-Ply Roof Membrane Installation and Repair Adhesive (Except EPDM and TPO)	250
Shingle Laminating Adhesive	30
All Other Roof Adhesives	250
Rubber Floor Adhesive	60
Structural Glazing Adhesive	100
Structural Wood Member Adhesive	140
Subfloor Adhesive	50
VCT and Asphalt Tile Adhesive	50
Wood Flooring Adhesive	20
All Other Indoor Floor Covering Adhesives	50
All Other Outdoor Floor Covering Adhesives	50
Computer Diskette Manufacturing Adhesive	350
Contact Adhesive	80
Edge Glue	250
Plastic Welding Cement	
ABS Welding Cement	325
ABS to PVC Transition Cement	425
CPVC Welding Cement	400
CPVC For Life-Safety Systems	490
Higher Viscosity CPVC Welding Cement	400
PVC Welding Cement	425
All Other Plastic Welding Cements	100

Table 1.	
Application Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Rubber Vulcanization Adhesive	250
Special Purpose Contact Adhesive	250
Thin Metal Laminating Adhesive	780
Tire Tread Adhesive	100
Top and Trim Adhesive	250
Waterproof Resorcinol Glue	170
All Other Adhesives	250

Table 2.	
Substrate Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80
Reinforced Plastic Composite	200

Table 3.	
Adhesive Primers	Grams of volatile organic compounds (VOC) per liter adhesive
Plastic	550
Pressure Sensitive	785
Traffic Marking Tape	150
Vehicle Glass	700
Roof Adhesive Primers	250
All Other Adhesive Primers	250

(f) In accordance with the compliance schedule for contingency requirements in

§115.479(d) of this title in the Houston-Galveston-Brazoria area, the owner or operator shall apply low-VOC adhesives or adhesive primers to limit VOC emissions from all adhesives and adhesive primers used during the specified application processes to the VOC content limits listed in the tables in this subsection in grams of VOC per liter of adhesive (minus water and exempt solvent compounds), as delivered to the application system. If an adhesive or adhesive primer is used to bond dissimilar substrates together, then the applicable substrate category with the least stringent VOC content limit applies.

Figure: 30 TAC §115.473(f)

Table 1.

Application Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Architectural Applications	
Building Envelope Membrane Adhesive	250
Carpet Pad Adhesive	50
Ceramic Tile Installation Adhesive	65
Cove Base Installation Adhesive	50
Dry Wall Adhesive	50
Glass, Porcelain, and Stone Tile Adhesive	65
Multipurpose Construction Adhesive	70
Panel Adhesive	50
Roofing	
Hot Applied Modified Bitumen or Built Up Roof Adhesive	30
EPDM/TPO Single-Ply Roof Membrane Adhesive	250
Single-Ply Roof Membrane Installation and Repair Adhesive (Except EPDM and TPO)	250

Table 1.	
Application Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Shingle Laminating Adhesive	30
All Other Roof Adhesives	250
Rubber Floor Adhesive	60
Structural Glazing Adhesive	100
Structural Wood Member Adhesive	140
Subfloor Adhesive	50
VCT and Asphalt Tile Adhesive	50
Wood Flooring Adhesive	20
All Other Indoor Floor Covering Adhesives	50
All Other Outdoor Floor Covering Adhesives	50
Computer Diskette Manufacturing Adhesive	350
Contact Adhesive	80
Edge Glue	250
Plastic Welding Cement	
ABS Welding Cement	325
ABS to PVC Transition Cement	425
CPVC Welding Cement	400
CPVC For Life-Safety Systems	490
Higher Viscosity CPVC Welding Cement	400
PVC Welding Cement	425
All Other Plastic Welding Cements	100
Rubber Vulcanization Adhesive	250
Special Purpose Contact Adhesive	250
Thin Metal Laminating Adhesive	780
Tire Tread Adhesive	100
Top and Trim Adhesive	250
Waterproof Resorcinol Glue	170
All Other Adhesives	250

Table 2.	
Substrate Specific Adhesives	Grams of volatile organic compounds (VOC) per liter adhesive
Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80
Reinforced Plastic Composite	200

Table 3.	
Adhesive Primers	Grams of volatile organic compounds (VOC) per liter adhesive
Plastic	550
Pressure Sensitive	785
Traffic Marking Tape	150
Vehicle Glass	700
Roof Adhesive Primers	250
All Other Adhesive Primers	250