



TECHNICAL REFERENCES & RESOURCES

Standard/Resource	Document Name
ACGIH	American Conference of Governmental Industrial Hygienists' <i>Guide to Occupational Exposure Values</i> , Cincinnati, OH
AIHA	American Industrial Hygiene Association, <i>Workplace Environmental Exposure Level Guides</i> . Akron, OH.
ANSI/ASHRAE Standard 62.1	<i>Ventilation for Acceptable Indoor Air Quality</i> , American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta, GA.
ANSI/ASHRAE Standard 62.2	<i>Ventilation and Acceptable Indoor Air Quality in Residential Buildings</i> , American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta, GA.
ANSI/BIFMA M7.1	<i>Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture Systems and Seating</i> , BIFMA International, Grand Rapids, MI.
ANSI/BIFMA X7.1	<i>Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components and Seating</i> , BIFMA International, Grand Rapids, MI.
ASHRAE Standard 55-2004	<i>Thermal Environmental Conditions for Human Occupancy</i> , Atlanta, GA 2004
ASTM D 1356	<i>Standard Terminology Relating to Sampling and Analysis of Atmospheres</i>
ASTM D 5116	<i>Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products</i>
ASTM D 5197	<i>Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology)</i>
ASTM D 6196	<i>Standard Practice for Selection of Sorbents, Sampling and Thermal Desorption Analysis Procedures for Volatile Organic Compounds in Air</i>
ASTM D 6345	<i>Standard Guide for Selection of Methods for Active, Integrative Sampling of Organic Compounds in Air</i>
ASTM D 6670	<i>Standard Practice for Full-Scale Determination of Volatile Organic Emissions from Indoor Materials/Products</i>
ASTM D 7339	<i>Standard Test Method for Determination of Volatile Organic Compounds Emitted from Carpet using a Specific Sorbent Tube and Thermal Desorption / Gas Chromatography</i>
ASTM E 741	<i>Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution</i>
Atmospheric Environment. Part A. General Topics	<i>Rudolf J Engelmann, William R Pendergrass, J. Randy White, Mark E Hall, The effectiveness of stationary automobiles as shelters in accidental releases of toxic materials, Atmospheric Environment. Part A. General Topics, Volume 26, Issue 17, December 1992, Pages 3119-3125. https://doi.org/10.1016/0960-1686(92)90469-2.</i>
ATSDR	Agency for Toxic Substances and Disease Registry, <i>Minimal Risk Levels for Hazardous Substances (MRLs)</i> , Atlanta: Agency for Toxic Substances and Disease Registry.
BIFMA e3	<i>Furniture Sustainability Standard</i> , BIFMA International, Grand Rapids, MI.
California EPA	The Office of Environmental Health Hazard Assessment's (OEHHA) Acute Reference Exposure Levels
California EPA	The Office of Environmental Health Hazard Assessment's (OEHHA) Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
California EPA	The Office of Environmental Health Hazard Assessment's (OEHHA) Toxic Air Contaminant (TAC) Identification List

This document shall not be reproduced, except in full, without permission from UL.

Standard/Resource	Document Name
California EPA	The Office of Environmental Health Hazard Assessment's (OEHHA) Chronic Reference Exposure Levels (RELs).
California EPA	Proposition 65 Safe Harbor Levels: No Significant Risk Levels for Carcinogens and Maximum Allowable Dose Levels for Chemicals Causing Reproductive Toxicity (Status Report).
CDPH - CA Section 01350	<i>Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2.</i>
CDPH - CA Section 01350	<i>Reference Specifications for Energy and Resource Efficiency, Section 01350 Special Environmental Requirements.</i>
CHPS 2009 Criteria	<i>CHPS Best Practice Manual Volume III California Criteria for High Performance Schools, Collaborative for High Performance Schools, San Francisco, CA</i>
Code of Federal Regulations (CFR) Title 40 CFR § 600.315-08	<i>Title 40 CFR § 600.315-08 - Classes of comparable automobiles. U.S. Government Publishing Office. 1 July 2015.</i>
ECHA	European Chemical Agency's Derived No Effect Levels (DNELs) Registered Substances Database. Annankatu 18, P.O. Box 400, FI-00121 Helsinki, Finland.
ECMA 328	<i>Determination of Chemical Emission Rates from Electronic Equipment, Third Edition.</i>
FDA	<i>Draft Reviewer Guidance for Ventilators - Reviewer Guidance for Premarket Notification Submissions Anesthesiology and Respiratory Devices Branch, Division of Cardiovascular, Respiratory and Neurological Devices.</i>
FDA	CFR - Code of Federal Regulations Title 21- Subchapter H – Medical Devices – Maximum Acceptable Level of Ozone
IBM National Bulletin N-B 3-0527-050	<i>Product Chemical Emission – Worldwide Regulations.</i>
ISO 14021:2001	<i>Environmental labels and declarations. Self-declared environmental claims (Type II environmental labeling), International Organization for Standardization, Geneva, Switzerland.</i>
ISO 16000-11	<i>Indoor Air - Part 11: Determination of the Emission of Volatile Organic Compounds from Building Products and Furnishing - Sampling, Storage of Samples and Preparation of Test Specimens,</i>
ISO 16000-3	<i>Indoor Air -- Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air -- Active sampling method</i>
ISO 16000-6	<i>Indoor Air -- Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas chromatography using MS or MS-FID</i>
ISO 16000-9	<i>Indoor Air - Part 9: Determination of the Emission of Volatile Organic Compounds from Building Products and Furnishing - Emission Test Chamber Method</i>
ISO 16017-1	<i>Indoor, Ambient and Workplace Air - Sampling and Analysis of Volatile Organic Compounds by Sorbent Tube/Thermal Desorption.Capillary Gas Chromagrophy - Part 1: Pumped Sampling</i>
ISO 18562-1	<i>Biocompatibility evaluation of breathing gas pathways in healthcare applications -- Part 1: Evaluation and testing within a risk management process</i>
ISO 18562-2	<i>Biocompatibility evaluation of breathing gas pathways in healthcare applications -- Part 2: Tests for emissions of particulate matter</i>

This document shall not be reproduced, except in full, without permission from UL.

Standard/Resource	Document Name
ISO 18562-3	<i>Biocompatibility evaluation of breathing gas pathways in healthcare applications-- Part 3: Tests for emissions of volatile organic compounds (VOCs)</i>
ISO 554: 1976	<i>Standard Atmospheres for conditioning and/or testing - specifications.</i>
ISO/IEC 28360-1	<i>Information technology - Office equipment - Determination of chemical emission rates from electronic equipment - Part 1: Using-consumables</i>
ISO/IEC 28360-2	<i>Information technology - Office equipment - Determination of chemical emission rates from electronic equipment - Part 1: Not using-consumables</i>
National Library of Medicine	<i>Knibbs LD, de Dear RJ, Atkinson SE. Field study of air change and flow rate in six automobiles. Indoor Air. 2009 Aug;19(4):303-13. doi: 10.1111/j.1600-0668.2009.00593.x. Epub 2009 Jan 19. PMID: 19500174.</i>
National Library of Medicine	<i>Park JH, Spengler JD, Yoon DW, Dumyahn T, Lee K, Ozkaynak H. Measurement of air exchange rate of stationary vehicles and estimation of in-vehicle exposure. J Expo Anal Environ Epidemiol. 1998 Jan-Mar;8(1):65-78. PMID: 9470106.</i>
OSHA	<i>Occupational Safety & Health Standards, Federal Register 29 CFR 1910, United States Department of Labor.</i>
RAL-UZ 205	<i>Office Equipment with Printing Function (Printers and Multifunction Devices), Blue Angel, The German Ecolabel.</i>
Research Triangle Institute/U.S. EPA	<i>Environmental Technology Verification Test Plan (ETV) Large Chamber Test Protocol for Measuring Emissions of VOCs and Aldehydes, Research Triangle Park, NC, 1999.</i>
U.S. EPA	<i>Exposure Factors Handbook, Washington, DC: U.S. Environmental Protection Agency</i>
U.S. EPA	<i>Indoor Air Emissions from Office Equipment: Test Method Development and Pollution Prevention Opportunities, EPA-600/R-98-080; NTIS, PB98-165137.</i>
U.S. EPA	<i>U.S. Environmental Protection Agency. Integrated Risk Information System (IRIS).</i>
U.S. EPA. Method TO-1	<i>Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, "Method for the Determination of Volatile Organic Compounds in Ambient Air Using Tenax Adsorption and Gas Chromatography/Mass Spectrometry (GC/MS)." (EPA/625/R-96/010b). Research Triangle Park, NC.</i>
U.S. EPA. Method TO-11A	<i>Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, "Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)[Active Sampling Methodology]" Second Edition, Research Triangle Park, NC.</i>
U.S. EPA. Method TO-17	<i>Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, "Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes," Second Edition (EPA/625/R-96/010b), Research Triangle Park, NC.</i>
UL 2818	<i>UL 2818 GREENGUARD Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishings</i>
UL 2819	<i>UL 2819 GREENGUARD Certification Program for Chemical and Particle Emissions for Electronic Equipment</i>
UL 2820	<i>UL 2820 GREENGUARD Certification Program for Chemical Emissions for Cleaners and Cleaning Maintenance Systems</i>
UL 2821	<i>UL 2821 GREENGUARD Certification Program Method for Measuring and Evaluating Chemical Emissions From Building Materials, Finishes and Furnishings</i>

This document shall not be reproduced, except in full, without permission from UL.

Standard/Resource	Document Name
UL 2822	UL 2822 GREENGUARD Certification Program Method for Measuring and Evaluating Chemical Emissions from Cleaners and Cleaning Maintenance Systems Using Dynamic Environmental Chambers
UL 2823	UL 2823 GREENGUARD Certification Program Method for Measuring and Evaluating Chemical and Particle Emissions from Electronic Equipment Using Dynamic Environmental Chambers
UL 2824	UL 2824 GREENGUARD Certification Program Method for Measuring Microbial Resistance From Various Sources Using Static Environmental Chambers
UL2904 Ed1	Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers
CEN (The European Committee for Standardization)	PrEN 13419-1. <i>Building Products, Determination of the Emissions of Volatile Organic Compounds. Part 1: Emissions Test Chamber Method.</i>
CEN (The European Committee for Standardization)	PrEN 13419-3. <i>Building Products, Determination of the Emissions of Volatile Organic Compounds. Part 3: Procedure for Sampling, Storage of Samples and Preparation of Test Specimens.</i>
Journal of Chromatography A	Bertoni, G., F. Bruner, A. Liberti, and C. Perrino, "Some Critical Parameters in Collection, Recovery, and Gas Chromatographic Analysis of Organic Pollutants in Ambient Air Using Light Adsorbents." v 203, pp 263-270.
Journal of Chromatography A	Bruner, F., G. Bertoni, and G. Crescentini, "Critical Evaluation of Sampling and Gas Chromatographic Analysis of Halocarbons and Other Organic Air Pollutants." v 167, pp 399-407.
Chromatographia	Mangani, F., A. Mastrogiacomo, and O. Marras, "Evaluation of the Working Conditions of Light Adsorbents and Their Use as Sampling Material for the GC Analysis of Organic Air Pollutants in Work Areas." v 15, pp 712-716.

Helpful Websites	
California Air Resource Board	http://www.arb.ca.gov/toxics/id/taclist.htm
California's Office of Environmental Health Hazard Assessment	https://oehha.ca.gov/
US EPA	https://www.epa.gov/
US FDA	https://www.fda.gov/
International Organization of Standards	https://www.iso.org/
Germany's EcoLabel	https://www.blauer-engel.de/en

This document shall not be reproduced, except in full, without permission from UL.