1. Record Nr. UNINA9910141499403321 Odour impact assessment handbook [[electronic resource] /] / editors, Titolo Vincenzo Belgiorno, Vincenzo Naddeo and Tiziano Zarra Pubbl/distr/stampa Chichester, West Sussex, U.K.; ; Hoboken, : John Wiley & Sons, Inc., 2013 **ISBN** 1-118-48126-7 1-299-18817-6 1-118-48129-1 1-118-48128-3 Descrizione fisica 1 online resource (308 p.) Altri autori (Persone) NaddeoV BelgiornoV ZarraT Disciplina 363.739/2 363.7392 628.3 Soggetti Odor control Volatile organic compounds - Environmental aspects Air quality management Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Odour Impact Assessment Handbook; Contents; List of Contributors; Preface; Glossary and Abbreviations; 1 Introduction; 1.1 Origin and Definition; 1.2 Quantifying Odour; 1.3 Effects of Odour; 1.4 Odour Impact Assessment Approaches; References; 2 Odour Characterization and Exposure Effects; 2.1 Attribute Descriptors; 2.1.1 Concentration; 2.1.2 Perceptibility or Olfactive Threshold; 2.1.3 Intensity; 2.1.4 Diffusibility; 2.1.5 Quality or Character; 2.1.6 Hedonic Tone or Offensiveness: 2.2 Chemistry and Odours: 2.2.1 Vapour Pressure: 2.2.2 Water Solubility; 2.2.3 Chemical and Biological Oxidation 2.3 Odorous Compounds, Thresholds and Sources 2.4 Public Health Relevance of Odour Exposure: 2.5 Odour Annovance and Nuisance: 2.5.1 Odour Exposure; 2.5.2 People Response; 2.5.3 Sensitivity of

Receptors; References; 3 Instruments and Methods for Odour Sampling and Measurement; Sections 3.1-3.4; 3.1 Introduction; 3.2 Sampling Techniques; 3.2.1 Regulations and Guidelines; 3.2.2 General Aspects; 3.2.3 Sampling Program; 3.3 Measurement of Odorous Substances; 3.3.1 Gas Chromatography and Mass-Spectrometry (GC/MS); 3.3.2 Colorimetric Tubes; 3.3.3 Portable Multi-Gas Detectors; 3.3.4 Gas Analysers

3.4 Determination of Odour Concentration by Dynamic Olfactometry3.5 Determination of Odour Concentration by the Triangular Odour Bag Method; 3.5.1 Equipment and Apparatus; 3.5.2 Panel; 3.5.3 Timing for the Sensory Test; 3.5.4 Procedures of the Sensory Test; 3.5.5 Quality Control Framework; 3.6 Estimation of Emission Rate; 3.6.1 Point Sources; 3.6.2 Area Sources; 3.6.3 Volume Sources; 3.6.4 Odour Emission Capacity; 3.7 Measurement of Odour Exposure by Field Assessment; 3.7.1 Field Inspection; 3.7.2 Community Surveys; 3.7.3 Odour Diaries; 3.7.4 Plume Measurement

3.8 Measurement of Odour by Sensor Arrays3.8.1 Odour Sensors; 3.8.2 Electronic Noses; 3.8.3 Signal Processing and Pattern Recognition; 3.8.4 Artificial Neural Network; 3.8.5 Temperature Modulation; 3.8.6 Feature Selection; 3.8.7 Embedded E-Noses; References; 4 Strategies for Odour Control; 4.1 Introduction; 4.2 Control of Odour Dispersion; 4.3 Control of Odour Effects on an Exposed Community; 4.4 Control of Odour Emission; 4.4.1 Physical/Chemical Technologies; 4.4.2 Biological Technologies; 4.4.3 Technology Comparison Based on Case Studies; References

5 Dispersion Modelling for Odour Exposure Assessment5.1 Introduction; 5.2 Odour Perception; 5.2.1 Odour Intensity; 5.2.2 Temporal Dimension; 5.3 Overview on Types of Odour Dispersion Model; 5.4 Algorithms to Estimate Short-Term Odour Concentrations; 5.5 Annoyance; 5.6 Odour Impact Criteria for Use in Dispersion Modelling; 5.7 Meteorological Input to Odour Dispersion Models; 5.7.1 Wind Information; 5.7.2 Information on Atmospheric Stability; 5.7.3 Information on the Mixing Height; 5.8 Evaluation of Odour Dispersion Models; References; 6 Odour Regulation and Policies; 6.1 Introduction 6.2 Regulation Based on Air Quality Standards and Limit Values

Sommario/riassunto

Odours have become a priority concern for facility operators, engineers and urban planners who deal with waste and industrial treatment plants. The subjectivity of smell perception, its variability due to frequency and weather conditions, and the complex nature of the substances involved, has long hampered the regulation of odour emissions. This book provides a comprehensive framework for the assessment, measurement and monitoring of odour emissions, and covers: Odour characterization and exposure effectsInstruments and methods for sampling and measurementIn the substance of the substance o