



**Calculation method for volatile organic compounds
emission from paint and ink manufacturing industry
in Shanghai (Revised in 2017)**

上海市涂料油墨制造业挥发性有机物排
放量计算方法（2017 年修订）

Shanghai Environmental Protection Bureau
Translated by Chemlinked


CHEMLINKED
by REACH24H Consulting Group

Disclaimer

This is an unofficial document provided by ChemLinked (chemlinked.com), a division of REACH24H Consulting Group, as an informational service to assist non-Chinese companies.

This document should only be used as a reference and in case of any discrepancy between the English and Chinese versions the original Chinese version shall prevail.

Nondisclosure:

For ChemLinked Standard Members & e-book buyers: You may not disclose this document to anyone else without the written permission of ChemLinked.

For ChemLinked Corporate Members: You may circulate the copy of this document electronically or by printed copy with your colleagues in the same company which is registered in ChemLinked.com.

Besides, you are not allowed to disclose this document to anyone else without the written permission of ChemLinked.

For further clarification and questions, please contact us:

contact@chemlinked.com

Calculation method for volatile organic compounds emission from paint and ink manufacturing industry in Shanghai

(Revised in 2017)

Shanghai Environmental Protection Bureau
February 2017

Contents

Contents	I
Foreword	II
1 Scope of Application	1
2 Normative References	1
3 Terms and Definitions	2
4 Calculation Method	2
4.1 Leakage of equipment at dynamic and static sealing points	3
4.2 Volatilization loss of organic liquids during storage and blending	7
4.3 Emission of waste water during collection and distribution, storage and treatment	9
4.4 Waste gas emission during production processes	11
4.5 Volatilization loss of solvent regeneration	18
4.6 Emission of lab waste gases	19
Annex A Calculation of total loss of fixed roof tank	20
Annex B Calculation of total loss of floating roof tank	27
Annex C Unit Conversion	33

Foreword

This Method was prepared in order to implement the *Environmental Protection Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and the *Regulations of Shanghai on the Prevention and Control of Atmospheric Pollution* as well as other laws and regulations, so as to protect the environment, prevent and control pollution and promote the technological advance of the manufacturing industry of paint, ink and allied products and the reduction in volatile organic compounds (VOCs) emission.

This Method specifies the calculation method for major sources for volatile organic compounds emission from manufacturers of paint, ink and allied products.

The Method was referenced to those specified in the *Calculation Method for VOCs Emission from Petrochemical industry* and the *Calculation Method for VOCs Emission from Packaging and Printing industry* (No. 71 [2015] of the Ministry of Finance).

This Method was formulated by Shanghai Environmental Protection Bureau.

This Method was drafted by Shanghai Academy of Environmental Science.

Calculation method for volatile organic compounds emission from paint and ink manufacturing industry in Shanghai

1 Scope of Application

This Method is applicable to the calculation of VOCs emission from manufacturers or production facilities of paint, ink and their allied products during the manufacturing and operation.

This Method is applicable to the management of VOCs emission from manufacturers or production facilities of paint, ink and their allied products.

2 Normative References

The following documents or clauses thereof are referenced in this Method. For undated references, the latest edition of the referenced document applies.

GB/T 8017 *Standard Test Method for Vapor Pressure of Petroleum Products – Reid Method*

GB/T 16157 *Determination of Particulates and Sampling Methods of Gaseous Pollutants Emitted from Exhaust Gas of Stationary Source*

HJ 494 *Water quality – Guidance Sampling Techniques*

HJ 495 *Water Quality – Technical Regulation on the Design of Sampling Programmes*

HJ 501 *Water Quality – Determination of Total Organic Carbon – Combustion Oxidation Nondispersive Infrared Absorption Method*

HJ 637 *Water Quality – Determination of Petroleum Oils and Animal and Vegetable Oils-Infrared Spectrophotometry*

HJ 639 *Water Quality – Determination of Volatile Organic Compounds-Purge and Trap/Gas Chromatograph-Mass Spectrometer*

HJ 686 *Water Quality – Determination of Volatile Organic Compounds-Purge and Trap/Gas Chromatography Spectrometry*

HJ 732 *Emission from Stationary Sources-Sampling of Volatile Organic Compounds-Bags Method*

HJ 733 *Guideline for the Determination of Volatile Organic Compound Leaks and Uncovered Liquid Surface Emissions*

HJ 734 *Stationary Source Emission - Determination of Volatile Organic Compounds-Sorbent Absorption and Thermal Desorption Gas*

HJ/T 38 *Stationary Source Emission-Determination of Nonmethane Hydrocarbons-Gas Chromatography*

HJ/T 55 *Technical Guidelines for Fugitive Emission Monitoring of Air Pollutants*

HJ/T 75 *Specifications for Continuous Emissions Monitoring of Flue Gas Emitted from Stationary Sources (on trial)*

HJ/T 397 *Technical Specifications for Emission Monitoring of Stationary Source*

DB31/ 881 *Air Emission Standard of Paint, Ink Allied Products Manufactures*

Measures for the Administration of Automatic Monitoring of Pollution Sources (No. 28 Decree of the Ministry of Environmental Protection of the People's Republic China)

Measures for the Administration of Environmental Surveillance (No. 39 Decree of the Ministry of Environmental Protection of the People's Republic China)

Pilot Measures for the Collection of the Pollutants Discharge Fees for Volatile Organic

ChemLinked Team, REACH24H Consulting Group | <http://chemlinked.com>

14th Floor, Building 3, Haichuang Technology Center 1288 West Wen Yi Road, Hangzhou, China (311121)

Tel: +86 571 8609 4444 Fax: +86 571 8700 7566 Email: contact@chemlinked.com

Free

\$1490
per year

Standard
for single user

\$4290
per year

Corporate
for users ≤ 20

Subscribe to CHEMLINKED Now

Unlimited
negotiable

Removing Regulatory Roadblocks,
Expediting Market Access

• Note: Price subject to final confirmation of ChemLinked.

Membership	Information & Knowledge				Events		Inventory Toolbox		Regulatory Database	bi-Weekly Newsletter
	News	Chempedia	E-book	Expert Articles	Webinar	Discount of Seminar/Workshop	Substance & Inventory Search	Alert service		
Free	√	√(Limited)	x	x	√	x	√	x	x	√
Standard	√	√ (Full version)	√	√	√	x	√	√	√	√
Corporate	√	√ (Full version)	√	√	√	√	√	√	√	√
Unlimited	√	√ (Full version)	√	√	√	√	√	√	√	√