



JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

**JIS K 0127** : 2013

(JAIMA/JSA)

**General rules for ion chromatography**

---

ICS 71.040.50

Reference number : JIS K 0127 : 2013 (E)

Date of Establishment: 1992-02-01

Date of Revision: 2013-02-20

Date of Public Notice in Official Gazette: 2013-02-20

Investigated by: Japanese Industrial Standards Committee  
Standards Board  
Technical Committee on Chemical Analysis

---

JIS K 0127:2013, First English edition published in 2015-08

Translated and published by: Japanese Standards Association  
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

---

In the event of any doubts arising as to the contents,  
the original JIS is to be the final authority.

© JSA 2015

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

NH/AT

## Contents

	Page
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	2
4 Outline of ion chromatography .....	5
5 Construction of apparatus .....	5
5.1 Construction .....	5
5.2 Vessel for eluent .....	5
5.3 Pump .....	6
5.4 Sample injection port (injector) .....	6
5.5 Column part .....	7
5.6 Detecting part .....	8
5.7 Data processing part .....	9
5.8 Auxiliary device .....	9
5.9 Eluent .....	9
5.10 Separation column and packing .....	10
6 Set-up and operation of apparatus .....	11
6.1 Set-up of apparatus .....	11
6.2 Cautionary instructions for safety .....	12
6.3 Preparation and pre-treatment of test sample solution .....	13
6.4 Operation .....	17
7 Calibration solutions .....	19
8 Qualitative analysis .....	24
9 Quantitative analysis .....	25
9.1 Determination .....	25
9.2 Peak area .....	25
9.3 Peak height .....	25
9.4 Overlapping peaks .....	25
9.5 Calibration curve .....	27
9.6 Standard addition method (drawing method) .....	29
10 Expression of test results .....	30
11 Control of quality of data .....	30
11.1 Validation of analytical method .....	30
11.2 Control of quality of data .....	30
11.3 Periodical inspection of apparatus performance .....	30
11.4 Blank test .....	31

11.5	Determination of minimum limit of detection .....	32
11.6	Determination of minimum limit of determination .....	33
12	Matters to be stated in individual JIS specifying ion chromatography as the analytical method .....	34

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Analytical Instruments Manufacturers' Association (JAIMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently, **JIS K 0127**:2001 is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

## General rules for ion chromatography

### 1 Scope

This Japanese Industrial Standard specifies the general rules for qualitative and quantitative determination of analyte using the ion chromatography.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) listed below shall be applied.

JIS K 0050 *General rules for chemical analysis*

JIS K 0211 *Technical terms for analytical chemistry (General part)*

JIS K 0214 *Technical terms for analytical chemistry (Chromatography part)*

JIS K 0215 *Technical terms for analytical chemistry (Analytical instrument part)*

JIS K 0557 *Water used for industrial water and wastewater analysis*

JIS K 8001 *General rule for test methods of reagents*

JIS K 8005 *Reference materials for volumetric analysis*

JIS K 8019 *Sodium nitrite (Reagent)*

JIS K 8073 *Benzoic acid (Reagent)*

JIS K 8116 *Ammonium chloride (Reagent)*

JIS K 8121 *Potassium chloride (Reagent)*

JIS K 8267 *Sodium formate (Reagent)*

JIS K 8372 *Sodium acetate (Reagent)*

JIS K 8443 *Potassium cyanide (Reagent)*

JIS K 8495 *para-Dimethylaminobenzylidene rhodanine (Reagent)*

JIS K 8506 *Potassium bromide (Reagent)*

JIS K 8528 *Sodium oxalate (Reagent)*

JIS K 8530 *Potassium bromate (Reagent)*

JIS K 8548 *Potassium nitrate (Reagent)*

JIS K 8617 *Calcium carbonate (Reagent)*

JIS K 8875 *Magnesium (Reagent)*

JIS K 8913 *Potassium iodide (Reagent)*

JIS K 8987 *Sodium sulfate (Reagent)*

JIS K 9001 *Potassium thiocyanate (Reagent)*

JIS K 9007 *Potassium dihydrogen phosphate (Reagent)*

JIS K 9501 *Sodium azide (Reagent)*