

# INTERNATIONAL STANDARD

# ISO 22029

Third edition  
2022-10

---

---

## Microbeam analysis — EMSA/MAS standard file format for spectral-data exchange

*Analyse par microfaisceaux — Format de fichier standard EMSA/MAS  
pour échange de données spectrométriques*





**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 General considerations</b> .....	<b>1</b>
<b>5 Format description</b> .....	<b>2</b>
5.1 General.....	2
5.2 Required keywords.....	3
5.3 Spectral data.....	4
5.4 Optional keywords.....	5
5.5 Ending A File.....	9
<b>6 Examples of data files in the EMSA/MAS spectral format</b> .....	<b>9</b>
<b>Bibliography</b> .....	<b>12</b>