

**Doc 9284**  
**AN/905**  
**SUPPLEMENT**



# **Technical Instructions for the Safe Transport of Dangerous Goods by Air**

---

Approved and published by  
decision of the Council of ICAO

2015 – 2016 Edition

**International Civil Aviation Organization**

This is a preview. [Click here to purchase the full publication.](#)



**Doc 9284**  
**AN/905**  
**SUPPLEMENT**



# **Technical Instructions for the Safe Transport of Dangerous Goods by Air**

---

Approved and published by  
decision of the Council of ICAO

2015 – 2016 Edition

**International Civil Aviation Organization**

This is a preview. [Click here to purchase the full publication.](#)

Published in separate English, Chinese, French,  
Russian and Spanish editions by the  
INTERNATIONAL CIVIL AVIATION ORGANIZATION  
999 University Street, Montréal, Quebec, Canada H3C 5H7

For ordering information and for a complete listing of sales agents  
and booksellers, please go to the ICAO website at [www.icao.int](http://www.icao.int)

*2015–2016 Edition*

**ICAO Doc 9284, Technical Instructions for the Safe Transport of  
Dangerous Goods by Air**

Order Number: 9284SU  
ISBN 978-92-9249-614-2  
ISSN 1726-6181

© ICAO 2014

All rights reserved. No part of this publication may be reproduced, stored in a  
retrieval system or transmitted in any form or by any means, without prior  
permission in writing from the International Civil Aviation Organization.

The designations employed and the presentation of the material in this  
publication do not imply the expression of any opinion whatsoever on the  
part of ICAO concerning the legal status of any country, territory, city or area,  
or of its authorities, or concerning the delimitation of its frontiers or boundaries.

## FOREWORD

This Supplement to the Technical Instructions provides information on the safe transport of dangerous goods by air that is primarily of interest to States. The information presented in this volume generally supplements or explains in greater depth the basic information contained in the Technical Instructions.

It should be noted, however, that while the information in this volume is intended mainly for use by States, it is likely that many other users of the Technical Instructions will desire to have this information available. It is not the intent in publication of this information in a separate volume to restrict or limit in any way its dissemination to any interested party, but rather only to simplify the Technical Instructions and enhance their comprehensibility through elimination of information which the average user has neither the need nor the desire to know.

Since the information in this volume supplements information presented in the Technical Instructions, the provisions of this volume are identified by the Part in that document with which the supplementary information is associated.

---



## TABLE OF CONTENTS

*Note.— The part numbers used in this Supplement are the same as the part numbers in the Technical Instructions to which the additional information given here is related. Where no supplementary information is provided to a particular part or chapter of the Technical Instructions, no corresponding part or chapter appears in this Supplement. However, supplementary information may be provided in a particular part or chapter of the Supplement where no corresponding part or chapter appears in the Technical Instructions.*

Page

### Part S-1. GENERAL

(additional information for Part 1 of the Technical Instructions)

<b>Chapter 1.</b>	<b>Scope and applicability .....</b>	<b>S-1-1-1</b>
1.1	Designation of national authority .....	S-1-1-1
1.2	General information to be provided to a State for the processing of exemptions .....	S-1-1-1
1.3	General recommendations to be considered when issuing exemptions .....	S-1-1-3
1.4	Requests for amendments to the Technical Instructions.....	S-1-1-3
Attachment I. Guidance for processing exemptions and approvals for the safe transport of dangerous goods by air .....		S-1-1-4
<b>Chapter 2.</b>	<b>Limitation of dangerous goods on aircraft — infected live animals .....</b>	<b>S-1-2-1</b>
<b>Chapter 3.</b>	<b>Guidance to States on the transport of dangerous goods by post.....</b>	<b>S-1-3-1</b>
3.1	Introduction .....	S-1-3-1
3.2	Assessment of procedures .....	S-1-3-1
3.3	Training .....	S-1-3-1

### Part S-3. DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND QUANTITY LIMITATIONS

(additional information for Part 3 of the Technical Instructions)

<b>Chapter 1.</b>	<b>General .....</b>	<b>S-3-1-1</b>
1.1	Supplementary dangerous goods list .....	S-3-1-1
1.2	Quantity limitations and packing requirements.....	S-3-1-1
1.3	Elevated temperature, molten or hot substances .....	S-3-1-1
<b>Chapter 2.</b>	<b>Supplementary dangerous goods list (Class 1) .....</b>	<b>S-3-2-1</b>
<b>Chapter 3.</b>	<b>Supplementary dangerous goods list (Class 2) .....</b>	<b>S-3-3-1</b>
<b>Chapter 4.</b>	<b>Supplementary dangerous goods list (Classes 3 to 9).....</b>	<b>S-3-4-1</b>
<b>Chapter 5.</b>	<b>Quantity limitations.....</b>	<b>S-3-5-1</b>
<b>Chapter 6.</b>	<b>Special provisions .....</b>	<b>S-3-6-1</b>
<b>Appendix 1.</b>	<b>List of toxic-by-inhalation liquids.....</b>	<b>S-3-A1-1</b>

**Part S-4. PACKING INSTRUCTIONS**  
(additional information for Part 4 of the Technical Instructions)

<b>Chapter 1. Packing requirements.....</b>	<b>S-4-1-1</b>
<b>Chapter 2. General .....</b>	<b>S-4-2-1</b>
<b>Chapter 3. Class 1 — Explosives .....</b>	<b>S-4-3-1</b>
3.1 Large and robust articles .....	S-4-3-1
3.2 General requirements .....	S-4-3-1
3.3 General packing provisions.....	S-4-3-1
3.4 Packing instructions .....	S-4-3-3
<b>Chapter 4. Class 2 — Gases .....</b>	<b>S-4-4-1</b>
4.1 Special packing provisions for dangerous goods of Class 2 .....	S-4-4-1
<b>Chapter 5. Class 3 — Flammable liquids .....</b>	<b>S-4-5-1</b>
<b>Chapter 6. Class 4 — Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases .....</b>	<b>S-4-6-1</b>
6.1 General requirements for self-reactive substances .....	S-4-6-1
6.2 Special requirements for self-reactive and related substances of Division 4.1 .....	S-4-6-1
6.3 Packing instructions .....	S-4-6-1
<b>Chapter 7. Class 5 — Oxidizing substances; organic peroxides .....</b>	<b>S-4-7-1</b>
7.1 General requirements for organic peroxides .....	S-4-7-1
<b>Chapter 8. Class 6 — Toxic and infectious substances .....</b>	<b>S-4-8-1</b>
<b>Chapter 10. Class 8 — Corrosives .....</b>	<b>S-4-10-1</b>
<b>Chapter 12. Portable tanks .....</b>	<b>S-4-12-1</b>
12.1 General .....	S-4-12-1
12.2 Design, construction, approval and marking .....	S-4-12-1
12.3 Other requirements .....	S-4-12-2
12.4 Placarding of portable tanks .....	S-4-12-2
12.5 Additional documentation.....	S-4-12-3
12.6 Special responsibilities of the operator in accepting dangerous goods in portable tanks.....	S-4-12-3

**Part S-5. STATE'S RESPONSIBILITIES WITH RESPECT TO SHIPPERS**  
(additional information for Part 5 of the Technical Instructions)

<b>Chapter 1. Inspections .....</b>	<b>S-5-1-1</b>
1.1 Guidance to States on dangerous goods inspections .....	S-5-1-1
1.2 Organization and procedures.....	S-5-1-1
1.3 Consignment inspection.....	S-5-1-1
1.4 Staff training .....	S-5-1-1
1.5 Training programmes.....	S-5-1-1
1.6 Results of inspection.....	S-5-1-1
1.7 Frequency of inspections .....	S-5-1-2
Attachment I. Dangerous goods audit form – shipper.....	S-5-1-3



**Part S-6. PACKAGING NOMENCLATURE, MARKING, REQUIREMENTS AND TESTS**  
(additional information for Part 6 of the Technical Instructions)

<b>Chapter 1. Codes for designating types of packagings .....</b>	<b>S-6-1-1</b>
<b>Chapter 6. Testing procedures for packagings containing infected live animals .....</b>	<b>S-6-6-1</b>

**Part S-7. STATE'S RESPONSIBILITIES WITH RESPECT TO OPERATORS**  
(additional information for Part 7 of the Technical Instructions)

<b>Chapter 2. Storage and loading .....</b>	<b>S-7-2-1</b>
2.1 Transport of radioactive material .....	S-7-2-1
2.2 Loading on passenger aircraft .....	S-7-2-1
2.3 Separation of explosive substances and articles .....	S-7-2-2
2.4 Carriage in the cabin by helicopters of cargo aircraft only dangerous goods .....	S-7-2-3
<b>Chapter 4. Provision of information .....</b>	<b>S-7-4-1</b>
4.1 Dangerous goods accidents and incidents .....	S-7-4-1
4.2 Notification of accidents .....	S-7-4-1
4.3 Investigation of accidents .....	S-7-4-2
4.4 Reporting of accidents .....	S-7-4-2
4.5 Dangerous goods incidents .....	S-7-4-2
4.6 Undeclared or misdeclared dangerous goods in cargo .....	S-7-4-3
4.7 Compliance assurance .....	S-7-4-3
4.8 Information to the pilot-in-command for helicopter operations .....	S-7-4-3
<b>Chapter 5. Inspections .....</b>	<b>S-7-5-1</b>
5.1 Guidance to States on dangerous goods inspections .....	S-7-5-1
5.2 Organization and procedures .....	S-7-5-1
5.3 Consignment inspection .....	S-7-5-1
5.4 Operations Manual and other staff instructions .....	S-7-5-1
5.5 Staff training .....	S-7-5-2
5.6 Training programmes .....	S-7-5-2
5.7 Passenger warning notices .....	S-7-5-2
5.8 Results of inspections .....	S-7-5-2
5.9 Frequency of inspections .....	S-7-5-2
Attachment I. Dangerous goods audit form .....	S-7-5-3
Attachment II. Dangerous goods inspection report — passenger terminal notices .....	S-7-5-7
<b>Chapter 6. Enforcement .....</b>	<b>S-7-6-1</b>
<b>Chapter 7. Annex 6 information relevant to State's dangerous goods responsibilities .....</b>	<b>S-7-7-1</b>
7.1 Approval to carry dangerous goods as cargo — air operators .....	S-7-7-1
7.2 Additional requirements for helicopter operators .....	S-7-7-1
Attachment I. Air operator certification and application process — general information for air operator certification of dangerous goods transport operations .....	S-7-7-2
Attachment II. Dangerous goods manual and training programme checklists .....	S-7-7-6
Attachment III. Operations specifications .....	S-7-7-13

**Part S-8. PASSENGER AWARENESS**

<b>Chapter 1. Guidance for the development of a passenger public awareness programme .....</b>	<b>S-8-1-1</b>
<b>Appendix 1. Passenger public awareness poster .....</b>	<b>S-8-A1-1</b>
<b>Appendix 2. Passenger public awareness brochure .....</b>	<b>S-8-A2-1</b>
<b>Appendix 3. Display cabinet .....</b>	<b>S-8-A3-1</b>
<b>Appendix 4. Passenger public awareness handouts .....</b>	<b>S-8-A4-1</b>
<b>Appendix 5. Dangerous goods website .....</b>	<b>S-8-A5-1</b>
<b>Appendix 6. Advisory bulletins .....</b>	<b>S-8-A6-1</b>