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Remarks

This Guide is designed as a summary of the general and individual stowage and segregation requirements of the IMDG Code.

It is an extract of the IMDG Code and contains all information needed by persons who are dealing with the stowage and segregation of hazardous materials/dangerous goods which are intended to be transported by seagoing ships.

For easier reference the numbers of the paragraphs of the IMDG Code text are here printed. However, since not all paragraphs are essential for the purpose of stowage/segregation some numbers are missing in the sequential order.

The use of the guide is especially recommended to cargo transport units packing stations, e.g. freight Containers etc., terminal operators, stevedores, shipplanners, supercargoes, cargo surveyors, Controlling authorities, and last but not least cargo officers. Shippers packing dangerous goods into cargo transport units and inland depots may also find it helpful to comply with the segregation requirements of the IMDG Code, particularly when **Ro/Ro** shipments are involved.

Using this Guide the following additions should be observed:

1. This edition of the Guide includes all currently relevant special stowage and segregation requirements of the IMDG Code for **freight** and for **passenger ships,** except those for **classes 1 and 7** .
2. UN Nos. which are not found in this guide are not given any special stowage or segregation provisions by the IMDG Code and their stowage category is “A”, i.e. **on or under deck** on all types of ships.
3. The principle of identifying one commodity by one UN No. has been waived in the course of restructuring the UN Recommendations and consequently for the IMDG Code as well. It may therefore be necessary to take into account the applicable Packing Group (PG) and the aggregate State (liquid or solid) of a substance when determing the proper stowage and segregation.
   In this guide the **Packing Group (PG)** is therefore added to the special requirements for UN Nos. by roman I, II, **or** III in brackets to these entries for which different stowage is required altough they are listed under the same UN No.
4. Furthermore for easier reference the respective **Segregation Group** (see IMDG Code 3.1.4.4) has been added in *italic letters* to the entries of UN Nos., where applicable.
5. The ILLUSTRATIONS OF SEGREGATION OF CARGO TRANSPORT UNITS ON BOARD CONTAINERSHIPS AND RO-RO SHIPS have been removed from the IMDG Code and consequently are no longer part of this Guide. Their purpose and benefit, however to familiarize with the requirements of the Code and to support training for relevant personnel remains unchanged. The ILLUSTRATIONS can be found under http://docs.imo.org/Shared/Download.aspx?did=73244
6. Individual **Class 4.1** (self-reactive substances) and **Class 5.2** (organic peroxides) substances can no longer be identified in an unmistakable manner by an unique UN No. in the IMDG Code. To determine the correct transport temperatures therefore the referenced lists in the IMDG Code need to be consulted.
7. Where the IMDG Code indicates that commodities under a specific UN No. may have different flashpoints or show a range of flashpoints for safety reaons the lowest flashpoint is listed.
8. Where the IMDG Code indicates a flashpoint for certain substances these flashpoints have been listed. Consideration should be given to SOLAS Chapter II-2, Regulation 54 (as from 1 July 2002: Chapter II-2, Regulation 19) which contains additional requirements for stowage in cargo Spaces of liquids with a flashpoint of less than +23°C.
9. For easier reference the **Special Provisions (SP)** (Chapter 3.3) of the IMDG Code which are relevant for stowage/segregation purposes are reprinted in this guide.
10. The original wording of the IMDG Code is compulsory. Although great care has been taken in the compilation and preparation of this work to ensure accuracy, the publishers cannot in any circumstances accept responsibility for any errors or omissions.

Note: 1. It should be kept in mind that sea transport of dangerous goods, marine pollutants, dangerous wastes, radioactive substances etc. is also governed by international Conventions and the requirements of these regimes are preceeding the regulations of the IMDG Code.

2. If and when required, the Storck-Website (www.ecomed-storck.de) will include any files that show errata or corrigenda to this edition of the Storck Guide.

966 Sheeted bulk containers (BK1) are only permitted in accordance with 4.3.3.

967 Flexible bulk containers (BK3) are only permitted in accordance with 4.3.4.

971 Battery powered equipment may only be transported provided that the battery shows no sign of leakage and is protected from short-circuit. In this case, no other provisions of this Code apply.

972 Lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the engine or machinery. Where a lithium battery installed in an engine or machinery is damaged or defective, the battery shall be removed.

973 Packages, with the exception of bales, shall also display the proper shipping name and the UN number of the substance that they contain in accordance with 5.2.1. In any case, the packages, including bales, are exempt from class marking provided that they are loaded in a cargo transport unit and that they contain goods to which only one UN number has been assigned. The cargo transport units in which the packages, including bales, are loaded shall display any relevant labels, placards and marks in accordance with chapter 5.3.

974 These substances may be transported in IMO type 9 tanks.

975 MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid shall only be transported on short international voyages. Long international voyages are authorized only with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.

976 The transport of this substance shall be prohibited except with the approval of the competent authorities of the port State of departure, port State of arrival and flag State.

(Remark: For complete list of SPECIAL PROVISIONS see IMDG Code.

3.4 DANGEROUS GOODS PACKED IN LIMITED QUANTITIES

3.4.1 General

3.4.1.1 This chapter provides the provisions applicable to the transport of dangerous goods of certain classes packed in limited quantities. The applicable quantity limit for the inner packaging or article is specified for each substance in column 7a of the Dangerous Goods List in chapter 3.2. In addition, the quantity “0” has been indicated in this column for each entry not permitted to be transported in accordance with this chapter.

3.4.1.2 Limited quantities of dangerous goods packed in such limited quantities, meeting the provisions of this chapter, are not subject to any other provisions of this Code except the relevant provisions of:

.1 Part 1, chapters 1.1, 1.2 and 1.3;

.2 Part 2;

.3 Part 3, chapters 3.1, 3.2, 3.3;

.4 Part 4, 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8;

.5 Part 5, 5.1.1 except 5.1.1.6, 5.1.2.3, 5.2.1.7, 5.2.1.9, 5.3.2.4, and chapter 5.4;

.6 Part 6, construction requirements of 6.1.4, 6.2.1.2 and 6.2.4;

.7 Part 7, 7.1.3.2, 7.6.3.1 and 7.3 except 7.3.3.15 and 7.3.4.1.

3.4.2 Packing

3.4.2.1 Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. Intermediate packagings may be used. In addition, for articles of division 1.4, compatibility group S, the provisions of section 4.1.5 shall be fully complied with. The use of inner packagings is not necessary for the transport of articles such as aerosols or “receptacles, small, containing gas”. The total gross mass of the package shall not exceed 30 kg.

3.4.2.2 Except for articles of division 1.4, compatibility group S, shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods transported in accordance with this chapter. Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 20 kg.

3.4.2.3 Liquid goods of class 8, packing group II in glass, porcelain or stoneware inner packagings shall be enclosed in a compatible and rigid intermediate packaging.

3.4.3 Stowage

Dangerous goods packed in limited quantity are allocated stowage category A as defined in 7.1.3.2. The other stowage provisions indicated in column 16a of the Dangerous Goods List are not applicable.

3.4.4 Segregation

3.4.4.1 Different dangerous substances in limited quantities may be packed in the same outer packaging, provided:

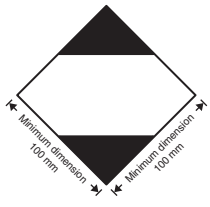
.1 the substances comply with the provisions of 7.2.6.1; and

.2 the segregation provisions of chapter 7.2, including the segregation provisions in column 16b of the Dangerous Goods List, are taken into account. However, notwithstanding the individual provisions specified in the Dangerous Goods List, substances in packing group III within the same class may be packed together subject to compliance with 3.4.4.1.1 of the IMDG Code. The following statement shall be included in the transport document: "Transport in accordance with 3.4.4.1.2 of the IMDG Code" (see 5.4.1.5.2.2).

3.4.4.2 The segregation provisions of chapter 7.2 to 7.7 including the segregation provisions in column 16b of the Dangerous Goods List are not applicable for packagings containing dangerous goods in limited quantities or in relation to other dangerous goods. However, articles of division 1.4, compatibility group S shall not be stowed in the same compartment or hold, or cargo transport unit with dangerous goods of class 1 of compability groups A und L.

3.4.5 Mark and placarding

3.4.5.1 Except for air transport, packages containing dangerous goods in limited quantities shall bear the mark shown below:



Mark for packages containing limited quantities

(Remark: For details see IMDG Code.

3.4.5.2 Packages containing dangerous goods packed in conformity with the provisions of part 3, chapter 4 of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air* may bear the mark shown below to certify conformity with these provisions:

Mark for packages containing limited quantities conforming to part 3, chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air

(Remark: For details see IMDG Code.

3.4.5.3 Multimodal recognition of marks

3.4.5.3.1 Packages containing dangerous goods bearing the mark shown in 3.4.5.2 with or without the additional labels and marks for air transport shall be deemed to meet the provisions of section 3.4.2 and need not bear the mark shown in 3.4.5.1.

3.4.5.3.2 Packages containing dangerous goods in limited quantities bearing the mark shown in 3.4.5.1 and conforming with the provisions of the ICAO *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, including all necessary marks and labels specified in Parts 5 and 6, shall be deemed to meet the provisions of section 3.4.1 as appropriate and of section 3.4.2.

3.4.5.4 When packages containing dangerous goods packed in limited quantities are placed in an overpack or in a unit load, the overpack or the unit load shall be marked with the mark required by this chapter unless the marks representative of all dangerous goods in the overpack or the unit load are visible. In addition, an overpack shall be marked with the word “OVERPACK” unless marks representative of all dangerous goods, as required by this chapter, in the overpack are visible. The lettering of the “OVERPACK” mark shall be at least 12 mm high. The other provisions of 5.1.2.1 apply only if other dangerous goods which are not packed in limited quantities are contained in the overpack or in a unit load and only in relation to these other dangerous goods.

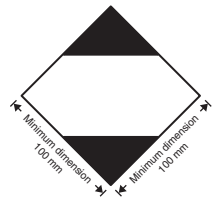
3.4.5.5 Placarding and marking of cargo transport unit

3.4.5.5.1 Cargo transport units containing dangerous goods packed in limited quantities with no other dangerous goods shall not be placarded nor marked according to 5.3.2.0 and 5.3.2.1. However, they shall be suitably marked on the exterior with the mark in 3.4.5.5.4.

3.4.5.5.2 Cargo transport units containing dangerous goods and dangerous goods packed in limited quantities shall be placarded and marked according to the provisions applicable to the dangerous goods which are not packed in limited quantities. However, if no placard or mark is required for the dangerous goods not packed in limited quantities, the cargo transport units shall be marked with the mark in 3.4.5.5.4.

3.4.5.5.3 [Reserved]

3.4.5.5.4 When required in 3.4.5.5.1 or 3.4.5.5.2, the following mark shall be affixed on cargo transport units:



(Remark: For details see IMDG Code.

3.4.6 Documentation

3.4.6.1 In addition to the provisions for documentation specified in chapter 5.4, the words “limited quantity” or “LTD QTY” shall be included on the dangerous goods transport document together with the description of the shipment.

3.5 DANGEROUS GOODS PACKED IN EXCEPTED QUANTITIES

3.5.1 Excepted quantities

3.5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this chapter are not subject to any other provisions of this Code except for:

.1 The training provisions in chapter 1.3;

.2 The classification procedures and packing group criteria in Part 2, Classification;

.3 The packaging provisions of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.4.1 and 4.1.1.6 in Part 4; and

.4 The provisions for documentation specified in chapter 5.4.

Note: In the case of radioactive material, the provisions for radioactive material in excepted packages in 1.5.1.5 apply.

3.5.1.2 Dangerous goods which may be carried as excepted quantities in accordance with the provisions of this chapter are shown in column 7b of the Dangerous Goods List by means of an alphanumeric code as follows:

(Remark: For details see IMDG Code.

3.5.4 Marking of packages

3.5.4.1 Packages containing excepted quantities of dangerous goods prepared in accordance with this chapter shall be durably and legibly marked with the mark shown below. The primary hazard class of each of the dangerous goods contained in the package shall be shown in the mark. Where the name of the consignor or consignee is not shown elsewhere on the package, this information shall be included within the mark.

CLASS 3 – Flammable Liquids

General segregation from other classes

Liquids of this class have to be segregated from other classes as indicated below

risk \ class	1.1 1.2 1.5	1.3 1.6	1.4	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
3	4	4	2	2	1	2	X	X	2	2	2	2	X	3	2	X	X
3 + 6.1	4	4	2	2	1	2	X	X	2	2	2	2	X	3	2	X	X
3 + 8	4	4	2	2	1	2	X	1	2	2	2	2	X	3	2	X	X

X	means: Segregation, if any, is shown in the Dangerous Goods List	1	means: Away from	2	means: Separated from	3	means: Separated by a complete compartment or hold from	4	means: Separated longitudinally by an intervening complete compartment or hold from

For definition of above segregation symbols and numbers see:
Chapters 7.4 (Container Ships), 7.5 (Ro-Ro Ships), 7.6 (General Cargo Ships) and 7.7 (Barge Carrying Ships)

Class 3

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1088		E	Flashpoint: below –18 °C
1089		E	Flashpoint: –27 °C
1090		E	Flashpoint: –20 °C Liquid
1091		B	Flashpoint: –4 °C
1093	6	D	• Protected from sources of heat • Clear of living quarters Flashpoint: –5 °C SP 386
1099	6	B	• Clear of living quarters *Liquid halogenated hydrocarbons* Flashpoint: –1 °C MARINE POLLUTANT mark
1100	6	E	• Clear of living quarters *Liquid halogenated hydrocarbons* Flashpoint: –29 °C
1104		A	Flashpoint: 25 °C
1105 (II)		B	Flashpoint: 19 °C
1105 (III)		A	Flashpoint: 19 °C

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1106 (II)	8	B	• Stow “separated from” acids Flashpoint: 2 °C
1106 (III)	8	A	• Stow “separated from” acids Flashpoint: 2 °C
1107		B	*Liquid halogenated hydrocarbons* Flashpoint: 11 °C
1108		E	Flashpoint: –20 °C
1109		A	Flashpoint: 26 °C
1110		A	Flashpoint: 49 °C
1111		B	• Segregation from foodstuffs as in 7.3.4.2.1, 7.6.3.1.2 or 7.7.3.6 • Stow “separated from” odour-absorbing cargoes Flashpoint: –7 °C
1112		A	• Clear of living quarters Flashpoint: 48 °C
1113		E	• Clear of living quarters Flashpoint: –20 °C
1114		B	• Clear of living quarters Flashpoint: –11 °C

Class 3

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1120 (II)		B	
1120 (III)		A	
1123 (II)		B	Flashpoint: 27 °C
1123 (III)		A	Flashpoint: 27 °C
1125		B	• Clear of living quarters • Stow “separated from” acids Flashpoint: –9 °C
1126		B	• Clear of living quarters *Liquid halogenated hydrocarbons* Flashpoint: 13 °C
1127		B	*Liquid halogenated hydrocarbons* Flashpoint: –30 °C
1128		B	Flashpoint: 18 °C
1129		B	Flashpoint: –7 °C
1130		A	Flashpoint: 47 °C
1131		D	• Clear of living quarters • Stow “separated longitudinally by an intervening complete compartment or hold from” class 1 Flashpoint: –30 °C
1133 (I)		E	Liquid
1133 (II)		B	Liquid
1133 (III)		A	Liquid
1134		A	*Liquid halogenated hydrocarbons* Flashpoint: 29 °C
1136 (II)		B	
1136 (III)		A	
1139 (I)		E	Solution
1139 (II)		B	Solution
1139 (III)		A	Solution
1144		E	Flashpoint: –53 °C
1145		E	Flashpoint: –18 °C
1146		E	Flashpoint: below –18 °C
1147		A	Flashpoint: 52 °C
1148 II)		B	
1148 (III)		A	
1149		A	Flashpoint: 25 °C
1150		B	*Liquid halogenated hydrocarbons* Flashpoint: 6 °C
1152		A	*Liquid halogenated hydrocarbons* Flashpoint: 26 °C
1153 (II) (III)		A	Flashpoint: 35 °C
1154		E	• Clear of living quarters • Stow “separated from” acids Flashpoint: –39 °C
1155		E	• Clear of living quarters Flashpoint: –40 °C
1156		B	Flashpoint: 13 °C

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1157		A	Flashpoint: 49 °C
1158		B	• Stow “separated from” acids Flashpoint: –7 °C
1159		E	• Clear of living quarters Flashpoint: –29 °C
1160		B	• Stow “separated from” acids *Alkalis* Flashpoint: –32 °C Solution
1161		B	Flashpoint: 18 °C
1162		B	• Clear of living quarters Flashpoint: –9 °C
1164		E	• Clear of living quarters Flashpoint: –37 °C
1165		B	Flashpoint: 12 °C
1166		B	• Clear of living quarters Flashpoint: 2 °C
1167		E	• Protected from sources of heat • Clear of living quarters Flashpoint: –30 °C SP 386
1169			UN No. 1169 has been delated. See UN No. 1197
1170 (II) (III)		A	Flashpoint: 13 °C Solution
1171		A	Flashpoint: 40 °C
1172		A	Flashpoint: 51 °C
1173		B	Flashpoint: –4 °C
1175		B	Flashpoint: 22 °C
1176		B	Flashpoint: 11 °C
1177		A	Flashpoint: 54 °C
1178		B	Flashpoint: 11 °C
1179		B	Flashpoint: –1 °C
1180		A	Flashpoint: 26 °C
1184		B	• Clear of living quarters *Liquid halogenated hydrocarbons* Flashpoint: 13 °C
1188		A	Flashpoint: 38 °C
1189		A	Flashpoint: 44 °C
1190		E	Flashpoint: –20 °C
1191		A	Flashpoint: 44 °C
1192		A	Flashpoint: 46 °C
1193		B	Flashpoint: –1 °C
1194		D	• Clear of living quarters Solution SP 900
1195		B	Flashpoint: 12 °C

	ON DECK OR UNDER DECK	ON DECK ONLY	PROHIBITED
CARGO SHIPS:	A, B, E	C, D	
PASSENGER SHIPS:	A	B, C	D, E

Class 3

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1196		B	• Clear of living quarters Flashpoint: 14 °C
1197 (II)		B	Liquid
1197 (III)		A	Liquid
1198		A	• Clear of living quarters Flashpoint: 32 °C Solution
1201 (II)		B	
1201 (III)		A	
1203		E	SP 243
1204		B	Solution
1206		B	Flashpoint: –4 °C MARINE POLLUTANT mark
1207		A	Flashpoint: 32 °C
1208		E	Flashpoint: –48 °C MARINE POLLUTANT mark
1210 (I)		E	
1210 (II)		B	
1210 (III)		A	
1212		A	Flashpoint: 28 °C
1213		B	Flashpoint: 18 °C
1214		B	• Clear of living quarters • Stow “separated from” acids Flashpoint: –9 °C
1216		B	
1218		D	• Protected from sources of heat Flashpoint: –48 °C SP 386 MARINE POLLUTANT mark
1219		B	Flashpoint: 12 °C
1220		B	Flashpoint: 11 °C
1221		E	• Clear of living quarters • Stow “separated from” acids Flashpoint: –37 °C
1222		D	Flashpoint: 12 °C
1224 (II)		B	Liquid
1224 (III)		A	Liquid
1228 (II) (III)		B	• Clear of living quarters • Segregation from foodstuffs as in 7.3.4.2.1, 7.6.3.1.2 or 7.7.3.6 • Stow “separated from” odour-absorbing cargoes Liquid
1229		A	Flashpoint: 32 °C
1230		B	• Clear of living quarters Flashpoint: 12 °C
1231		B	Flashpoint: –10 °C
1233		A	Flashpoint: 43 °C

UN-No.	Subsidiary risk(s)	Stow. Cat.	Stowage and handling Segregation Further informations
1234		E	Flashpoint: –28 °C
1235		E	• Stow “separated from” acids and mercury and mercury compounds *Alkalis* Flashpoint: –13 °C Solution
1237		B	Flashpoint: 14 °C
1243		E	Flashpoint: –32 °C
1245		B	Flashpoint: 14 °C
1246		C	• Protected from sources of heat SP 386
1247		C	• Protected from sources of heat • Clear of living quarters Flashpoint: 8 °C SP 386
1248		B	Flashpoint: –2 °C
1249		B	Flashpoint: 7 °C
1250		B	• Clear of living quarters • Stow “separated from” alkalis and cyanides *Acids* Flashpoint: 8 °C
1261		A	Flashpoint: 35 °C
1262		B	Flashpoint: –12 °C MARINE POLLUTANT mark
1263 (I)		E	Liquid
1263 (II)		B	Liquid
1263 (III)		A	Liquid
1264		A	Flashpoint: 27 °C
1265 (I)		E	Liquid
1265 (II)		E	Liquid
1266 (II)		B	Liquid
1266 (III)		A	Liquid SP 904
1267 (I)		E	
1267 (II)		B	
1267 (III)		A	
1268 (I)		E	
1268 (II)		B	
1268 (III)		A	
1272		A	Flashpoint: 57 °C MARINE POLLUTANT mark
1274 (II)		B	Flashpoint: 15 °C
1274 (III)		A	Flashpoint: 23 °C
1275		E	Flashpoint: below –18 °C
1276		B	Flashpoint: 10 °C
1277		E	• Clear of living quarters • Stow “separated from” acids Flashpoint: below –18 °C

	ON DECK OR UNDER DECK	ON DECK ONLY	PROHIBITED
CARGO SHIPS:	A, B, E	C, D	
PASSENGER SHIPS:	A	B, C	D, E