

Chapter 1.4

Security provisions

1.4.0 Scope

1.4.0.1 The provisions of this chapter address the security of dangerous goods in transport by sea. National competent authorities may apply additional security provisions, which should be considered when offering or transporting dangerous goods. The provisions of this chapter remain recommendatory except 1.4.1.1 (see 1.1.1.5).

1.4.0.2 The provisions of 1.4.2 and 1.4.3 do not apply to:

- .1 UN 2908 and UN 2909 excepted packages;
- .2 UN 2910 and UN 2911 excepted packages with an activity level not exceeding the A_2 value; and
- .3 UN 2912 LSA-I and UN 2913 SCO-I.

1.4.1 General provisions for companies, ships and port facilities*

1.4.1.1 The relevant provisions of chapter XI-2 of SOLAS, as amended, and of part A of the *International Ship and Port Facility Security Code* (ISPS Code) apply to companies, ships and port facilities engaged in the transport of dangerous goods and to which regulation XI-2 of SOLAS, as amended, apply taking into account the guidance given in part B of the ISPS Code.

1.4.1.2 For cargo ships of less than 500 gross tons engaged in the transport of dangerous goods, it is recommended that Contracting Governments to SOLAS, as amended, consider security provisions for these cargo ships.

1.4.1.3 Any shore-based company personnel, ship-based personnel and port facility personnel engaged in the transport of dangerous goods should be aware of the security requirements for such goods, in addition to those specified in the ISPS Code, and commensurate with their responsibilities.

1.4.1.4 The training of the company security officer, shore-based company personnel having specific security duties, port facility security officer and port facility personnel having specific duties, engaged in the transport of dangerous goods, should also include elements of security awareness related to those goods.

1.4.1.5 All shipboard personnel and port facility personnel who are not mentioned in 1.4.1.4 and are engaged in the transport of dangerous goods should be familiar with the provisions of the relevant security plans related to those goods, commensurate with their responsibilities.

1.4.2 General provisions for shore-side personnel

1.4.2.1 For the purpose of this subsection, shore-side personnel covers individuals mentioned in 1.3.1.2. However, the provisions of 1.4.2 do not apply to:

- the company security officer and appropriate shore-based company personnel mentioned in 13.1 of part A of the ISPS Code,
- the ship security officer and the shipboard personnel mentioned in 13.2 and 13.3 of part A of the ISPS Code,
- the port facility security officer, the appropriate port facility security personnel and the port facility personnel having specific security duties mentioned in 18.1 and 18.2 of part A of the ISPS Code.

For the training of those officers and personnel, refer to the *International Ship and Port Facility Security Code* (ISPS Code).

* Refer to the *Guidelines on security-related training and familiarization for port facility personnel* (MSC.1/Circ.1341) and to the *Guidelines on training and certification for port facility security officers* (MSC.1/Circ.1188).

- 1.4.2.2 Shore-side personnel engaged in transport by sea of dangerous goods should consider security provisions for the transport of dangerous goods commensurate with their responsibilities.
- 1.4.2.3 **Security training**
- 1.4.2.3.1 The training of shore-side personnel, as specified in chapter 1.3, shall also include elements of security awareness.
- 1.4.2.3.2 Security awareness training should address the nature of security risks, recognizing security risks, methods to address and reduce risks and actions to be taken in the event of a security breach. It should include awareness of security plans (if appropriate, refer to 1.4.3) commensurate with the responsibilities of individuals and their part in implementing security plans.
- 1.4.2.3.3 Such training should be provided or verified upon employment in a position involving dangerous goods transport and should be periodically supplemented with retraining.
- 1.4.2.3.4 Records of all security training received should be kept by the employer and made available to the employee or competent authority, upon request. Records should be kept by the employer for a period of time established by the competent authority.

1.4.3 Provisions for high consequence dangerous goods

1.4.3.1 Definition of high consequence dangerous goods

1.4.3.1.1 High consequence dangerous goods are those which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for class 7, mass socio-economic disruption.

1.4.3.1.2 An indicative list of high consequence dangerous goods in classes and divisions other than class 7 is given in table 1.4.1 below.

Table 1.4.1 – Indicative list of high consequence dangerous goods

Class 1, Division 1.1	explosives
Class 1, Division 1.2	explosives
Class 1, Division 1.3	compatibility group C explosives
△ Class 1, Division 1.4	UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456, 0500, 0512 and 0513
Class 1, Division 1.5	explosives
■ Class 1, Division 1.6	explosives
Class 2.1	flammable gases in quantities greater than 3,000 L in a road tank vehicle, a railway tank wagon or a portable tank
Class 2.3	toxic gases
Class 3	flammable liquids of packing groups I and II in quantities greater than 3,000 L in a road tank vehicle, a railway tank wagon or a portable tank
Class 3	liquid desensitized explosives
Class 4.1	solid desensitized explosives
Class 4.2	goods of packing group I in quantities greater than 3,000 kg or 3,000 L in a road tank vehicle, a railway tank wagon, a portable tank or a bulk container
Class 4.3	goods of packing group I in quantities greater than 3,000 kg or 3,000 L in a road tank vehicle, a railway tank wagon, a portable tank or a bulk container
Class 5.1	oxidizing liquids of packing group I in quantities greater than 3,000 L in a road tank vehicle, a railway tank wagon or a portable tank
Class 5.1	perchlorates, ammonium nitrate, ammonium nitrate fertilizers and ammonium nitrate emulsions or suspensions or gels in quantities greater than 3,000 kg or 3,000 L in a road tank vehicle, a railway tank wagon, a portable tank or a bulk container

- Class 6.1 toxic substances of packing group I
- △ Class 6.2 infectious substances of Category A (UN 2814 and UN 2900) and medical waste of Category A (UN 3549)
- Class 8 corrosive substances of packing group I in quantities greater than 3,000 kg or 3,000 L in a road tank vehicle, a railway tank wagon, a portable tank or a bulk container

1.4.3.1.3 For dangerous goods of class 7, high consequence radioactive material is that with an activity equal to or greater than a transport security threshold of 3,000 A₂ per single package (see also 2.7.2.2.1) except for the following radionuclides where the transport security threshold is given in table 1.4.2 below.

Table 1.4.2 – Transport security thresholds for specific radionuclides

Element	Radionuclide	Transport security threshold (TBq)
Americium	Am-241	0.6
Gold	Au-198	2
Cadmium	Cd-109	200
Californium	Cf-252	0.2
Curium	Cm-244	0.5
Cobalt	Co-57	7
Cobalt	Co-60	0.3
Caesium	Cs-137	1
Iron	Fe-55	8,000
Germanium	Ge-68	7
Gadolinium	Gd-153	10
Iridium	Ir-192	0.8
Nickel	Ni-63	600
Palladium	Pd-103	900
Promethium	Pm-147	400
Polonium	Po-210	0.6
Plutonium	Pu-238	0.6
Plutonium	Pu-239	0.6
Radium	Ra-226	0.4
Ruthenium	Ru-106	3
Selenium	Se-75	2
Strontium	Sr-90	10
Thallium	Tl-204	200
Thulium	Tm-170	200
Ytterbium	Yb-169	3

1.4.3.1.4 For mixtures of radionuclides, determination of whether or not the transport security threshold has been met or exceeded can be calculated by summing the ratios of activity present for each radionuclide divided by the transport security threshold for that radionuclide. If the sum of the fractions is less than 1, then the radioactivity threshold for the mixture has not been met nor exceeded.

This calculation can be made with the formula:

$$\sum_i \frac{A_i}{T_i} < 1$$

where:

A_i = activity of radionuclide *i* that is present in a package (TBq)

T_i = transport security threshold for radionuclide *i* (TBq).

1.4.3.1.5 When radioactive materials possess subsidiary hazards of other classes or divisions, the criteria of table 1.4.1 should also be taken into account (see also 1.5.5.1).

1.4.3.2 Specific security provisions for high consequence dangerous goods

1.4.3.2.1 The provisions of this section do not apply to ships and to port facilities (see the ISPS Code for ship security plan and for port facility security plan).

Note: In addition to the security provisions of this Code, competent authorities may implement further security provisions for reasons other than safety of dangerous goods during transport. In order to not impede international and multimodal transport by different explosives security marks, it is recommended that such marks be formatted consistent with an internationally harmonized standard (e.g. European Union Commission Directive 2008/43/EC).

1.4.3.2.2 Security plans

1.4.3.2.2.1 Consignors and others engaged in the transport of high consequence dangerous goods (see 1.4.3.1) should adopt, implement and comply with a security plan that addresses at least the elements specified in 1.4.3.2.2.2.

1.4.3.2.2.2 The security plan should comprise at least the following elements:

- .1 specific allocation of responsibilities for security to competent and qualified persons with appropriate authority to carry out their responsibilities;
- .2 records of dangerous goods or types of dangerous goods transported;
- .3 review of current operations and assessment of vulnerabilities, including intermodal transfer, temporary transit storage, handling and distribution, as appropriate;
- .4 clear statements of measures, including training, policies (including response to higher threat conditions, new employee/employment verification, etc.), operating practices (e.g. choice/use of routes where known, access to dangerous goods in temporary storage, proximity to vulnerable infrastructure, etc.), equipment and resources that are to be used to reduce security risks;
- .5 effective and up-to-date procedures for reporting and dealing with security threats, breaches of security or security-related incidents;
- .6 procedures for the evaluation and testing of security plans and procedures for periodic review and update of the plans;
- .7 measures to ensure the security of transport information contained in the plan; and
- .8 measures to ensure that the distribution of transport information is limited as far as possible. (Such measures shall not preclude provision of transport documentation required by chapter 5.4 of this Code.)

1.4.3.2.3 For radioactive material, the provisions of this chapter are deemed to be complied with when the provisions of the Convention on Physical Protection of Nuclear Material^{*} and the IAEA circular on *Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities*[†] are applied.

* INFCIRC/274/Rev.1, IAEA, Vienna (1980).

† INFCIRC/225/Rev.5, IAEA, Vienna (2011).