

Subject

Application of IMSBC Code 7th Amendment

ClassNK

Technical Information

No. TEC-1314

Date 20 December 2023

To whom it may concern

Please be informed the application of IMSBC Code Amendment 07-23 as follows.

The IMSBC Code amended by IMO Resolution MSC.539(107) is referred to as "IMSBC Code 7th Amendment" in this Technical Information.

The current IMSBC Code 6th Amendment is valid until 31 December 2024. Therefore, ClassNK Technical Information No.TEC-1283 dated 21 December 2022 will be revoked on 31 December 2024.

1. Application of the IMSBC Code 7th Amendment

The IMSBC Code 7th Amendment to revise individual schedules of cargoes was adopted by the IMO Maritime Safety Committee 107th session (MSC107) held in June 2023. The Amendment will enter into force on 1 January 2025 and will be mandatory for all ships loading solid bulk cargoes on or after 1 January 2025.

2. Cargoes newly added or revised

The IMSBC Code 7th Amendment contains individual schedules of cargoes newly added or revised, which refer to Attachment 1 "Table 1 - Cargoes newly added and requirements on construction/equipment (IMSBC Code 7th Amendment)". When carrying these cargoes, rewriting of the IMSBC Code fitness certificate is required.

3. Request of issuing the IMSBC Code fitness certificate

In case requesting issuance of the fitness certificate for the IMSBC Code 7th Amendment, please refer to Attachment 2 "Guidance for the application of IMSBC Code 7th Amendment fitness certificate".

4. Application of the IMSBC Code 7th Amendment on a voluntary basis

The IMSBC Code 7th Amendment may be applied on a voluntary basis from 1 January 2024 as a transition period. Therefore, in principle, ClassNK would issue IMSBC Code fitness certificates in accordance with the IMSBC Code 7th Amendment based on the following scheme.

- (1) For cargoes of "Group A and B" or "Group B" listed in Table 1 of Attachment 1, the certificates will be issued in accordance with the IMSBC Code 7th Amendment in cases where ships comply with the corresponding requirements. In some cases, it may be necessary to carry out an onboard survey in order to issue the certificate. Please contact ClassNK Material and Equipment Department (EQD) if need more information.

(To be continued)

NOTES:

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- (2) When carrying newly added cargo due to the 7th Amendment, please request for rewriting of the IMSBC Code fitness certificate. Please note that the current fitness certificate issued in accordance with the 6th Amendment remains valid until the expiration date of the certificate, but does not cover new cargoes due to the 7th Amendment. ClassNK recommends rewriting the certificate to apply the 7th Amendment before 1 January 2025, when the Amendment will enter into force.
 - (3) DIRECT REDUCED IRON(D)(By-product fines with moisture content of at least 2%)(Group A and B, MHB) (hereinafter, "DRI(D)") has been newly added in the 7th amendment of IMSBC Code. As a part of the movement toward a decarbonized society, there is an anticipated increase in demand for Direct Reduced Iron (DRI), primarily used in the steelmaking process with electric arc furnace. DRI(D), similar to DRI(C), is produced as a by-product of the manufacturing process of DRI(A) or DRI(B). When carrying DRI(D), mechanical ventilation fan is required in order to keep the hydrogen concentration less than 1% by volume (25% LEL). Please refer to the Appendix "Ventilation requirement of DIRECT REDUCED IRON(D)".
5. Rewriting of Exemption certificate for Fixed gas Fire-Extinguishing Arrangement (FFEA)
- (1) The following cargoes were added to the cargoes that FFEA may be exempted to be carried, according to IMSBC Code 7th Amendment and MSC.1/Circ.1395/Rev.6 (Please refer to attachment 3.).
 - ELECTRIC ARC FURNACE DUST, PELLETIZED

For ships having exemption certificate for FFEA, it is necessary to rewrite the exemption certificate if the above-mentioned cargoes are intended to be transported for adding these cargo names to the list of cargoes attached to the exemption certificate. Please note that the exemption certificate needs to be re-written in conjunction with rewriting of the IMSBC Code fitness certificate according to above 4.(2).
 - (2) In a case where a full-term exemption certificate has been issued by ClassNK, a new exemption certificate will be issued by ClassNK in order to include the above-mentioned cargoes.
 - (3) For Panamanian flagged ships, the ship owner or management company needs to request the issuance of a full-term exemption certificate to the Panamanian Administration directly within 30 days after the interim exemption certificate is issued by ClassNK.
 - (4) For Liberian flagged ships, ClassNK will request the Liberian Administration to issue the full-term exemption certificate, upon the issuance of the interim exemption certificate by ClassNK.
 - (5) In a case where a full-term exemption certificate is issued by the flag Administration except for Panamanian and Liberian Administrations, each flag Administrations have own procedures for issuance. Thus please contact ClassNK local office in charge of survey or ClassNK Classification Department (CLD) when procedures of the Administration is not clear.

(To be continued)

For any questions about the above, please contact:

[IMSBC Code fitness certificate and related questions]

NIPPON KAIJI KYOKAI (ClassNK)

Material and Equipment Department, Administration Center Annex, Head Office

Address: 3-3 Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan

Tel.: +81-3-5226-2020

Fax: +81-3-5226-2057

E-mail: eqd@classnk.or.jp

[Exemption certificate from Fixed Gas Fire-extinguishing system]

NIPPON KAIJI KYOKAI (ClassNK)

Classification Department, Information Center, Head Office

Address: 1-8-5 Ohnodai, Midori-ku, Chiba 267-0056, Japan

Tel.: +81-43-294-6469

Fax: +81-43-294-5449

E-mail: cld@classnk.or.jp

Attachment:

1. Table 1 - Cargoes newly added and requirements on construction/equipment (IMSBC Code 7th Amendment)
2. Guidance for the application of the IMSBC Code 7th Amendment fitness certificate
3. LIST OF SOLID BULK CARGOES FOR WHICH A FIXED GAS FIRE-EXTINGUISHING SYSTEM MAY BE EXEMPTED - MSC.1/Circ.1395/Rev.6
4. Appendix "Ventilation Requirement of DIRECT REDUCED IRON(D)"

Table 1 - Cargoes newly added and requirements on construction/equipment (IMSBC Code 7th Amendment)

Revised points are shown in red.

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w
CARGOES	IMO class	UN No.	Group	Stowage	NO SMOKING sign	Ventilation	SCBA	Protective clothing	Bilge line	Explosion protected electrical equipment	Dual purpose nozzles	4 jets of water	Heating arrangement	SOLAS Reg.II-2/54.2 or 19.3								FFEA (SOLAS Reg.II-2/10.7.1.3)
														Remote control of fire pump	4 jets of water	Explosion protected electrical equipment	Mechanical ventilation	Safe type fan	Natural ventilation	Personnel protection	A-60 insulation	
BARYTE, FLOTATION CHEMICAL GRADE			A																			
BROWN FUSED ALUMINA			C																			
CRUSHED GRANODIORITE FINES			A																			
DIRECT REDUCED IRON (D) (By-product fines with moisture content of at least 2%)	MHB		A and B	F	Y	ML1 or M4, MSp, Sa, Sp	Y			HCT2												Yes
DUNITE			C																			
DUNITE FINES			A																			
ELECTRIC ARC FURNACE DUST, PELLETIZED	MHB		A and B				Y	Y														
FISH MEAL (FISH SCRAP), STABILIZED	9 MHB	2246	B			Nm	Y							X	X				X	X		Yes
GROUND GRANULATED BLAST FURNACE SLAG POWDER			A																			
MAGNESITE FINES			A																			
POTASSIUM NITRATE			C																			
SODIUM NITRATE			C																			
SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE			C																			

The contents of each column in Table 1 are the same as in Table 2.1

Guidance for the application of the IMSBC Code 7th Amendment fitness certificate

0101 General

Under the IMSBC Code, solid bulk cargoes are classified as follows

- (1) Cargoes result in liquefaction or dynamic separation (Group A)
- (2) Cargoes having chemical hazards (Group B)
- (3) Cargoes other than formers (Group C).

In this guidance, they are referred to as “Group A cargoes”, “Group B cargoes” and “Group C cargoes” respectively.

0102 Requirements for construction and equipment

- 1. A loading manual and a stability information booklet approved by ClassNK are required to be provided onboard regardless of the types of cargo intended to be carried.
- 2. In a case where the moisture content of Group A cargoes exceeds the transportable moisture limit, the cargo is to be carried by the specially constructed or fitted cargo ship designed with portable divisions or permanent structural boundaries to confine any shift of cargo. For details, please refer to IMSBC Code Section 7.
- 3. For the requirements for the carriage of Group B cargoes, please refer to Tables 2.1 and 2.2. For the requirements for the carriage of COAL and BROWN COAL BRIQUETTES, please refer to Table 2.3.

Note 1.1: The Code provides special requirements for construction and equipment for fire protection and personnel protection as well as operational precautions and information on the properties of each material.

Note 1.2: The applications of the requirements of Reg.II-2/10.7 and 19 under SOLAS II-2 for carriage of dangerous goods are also shown in Table 2.1 for convenience's sake.

0103 Application

- 1. Applicant, the ship owner or their representative, or the shipbuilder, should submit an application containing the following items to ClassNK local office or Material and Equipment Department (EQD) before the survey onboard the ship. (Please refer to 0104)
 - (1) List of cargoes to be included in the IMSBC Code fitness certificate (Group A cargoes, Group C cargoes and/or Group B cargoes). In a case where the Group B cargoes are included, it is necessary to submit the list of Group B cargoes to EQD.
 - (2) For existing ships in the case where the survey onboard the ship is required, the expected date and place of the survey and local agent to contact.
 - (3) A list of documents submitted together with the application and of those expected to be submitted later, if any.
- 2. In the case where dangerous goods with the UN No. are included in the cargoes, the application for the issuance of a certificate of compliance with the requirements of SOLAS74 Reg.II-2/54 (Reg.II-2/19 under SOLAS2000) is also necessary.

0104 Submission of documents

- 1. In the case where the certification is requested for the carriage of Group B cargoes, the applicant should submit the documents as shown in Table 2.4 (cargoes other than COAL and BROWN COAL BRIQUETTES) and/or Table 2.5 (COAL and BROWN COAL BRIQUETTES) to ClassNK local office or EQD. For existing ships, if ClassNK concludes that the condition of the ship's compliance with the applicable requirements could be checked by the onboard survey, submission of documents and examination may be omitted. If it is not clear whether the submission is necessary or not, please contact EQD.
- 2. In a case where the certification is requested for the carriage of Group A cargoes without appropriate restrictions on their moisture contents, the applicant should submit one set of relevant

structural drawings, stability calculations and other documents considered necessary by ClassNK to EQD.

0105 Document examination, survey and issuance of certificate

After the document examination at EQD (if necessary) and a survey on board conducted at ClassNK office in charge of the survey, an IMSBC Code fitness certificate will be issued.

0106 Renewal and rewriting of the certificate

- 1. Rewriting of IMSBC Code fitness certificate due to the inclusion of cargoes shown in Table 1 (due to 7th Amendment)
 - (1) In a case where there are no additional requirements (the vessel has already complied with the requirements at previous surveys), an application and the list of cargoes should be submitted to EQD.
 - (2) In case there are additional requirements (the survey on board is required), an application and the list of cargoes should be submitted to ClassNK local office.
- 2. Renewal of IMSBC Code fitness certificate
An application should be submitted to ClassNK local office. In the case, it is necessary to carry out an onboard survey even if the cargo list is not changed.
- 3. Rewriting of IMSBC Code fitness certificate due to change of flag or ship's name
An application should be submitted to ClassNK local office. In the case, it is necessary to carry out an onboard survey even if the cargo list is not changed.

0107 Expiration date of certificate

- 1. In principle, the date of validity of the IMSBC Code fitness certificate is the same as that of the classification certificate. At the time of renewal surveys, the expiration date will be extended to 5 years.
- 2. When rewriting the certificate due to the IMSBC Code 7th Amendment, the expiration date of the current certificate before rewriting will continue.
- 3. Even if the IMSBC Code fitness certificate is not rewritten due to the Code Amendment, it is valid until the current certificate expires, but please note that the new or changed cargo due to the Code Amendment will not be subject to the certificate. ClassNK recommends rewriting to certificates before the mandatory application starts. For the 7th Amendment, please complete the rewriting procedure before 1 January 2025.

Requirements of construction and equipment for individual cargoes
under the provisions of the IMSBC Code 7th Amendment and SOLAS Reg.II-2/54.2 (Reg.II-2/19.3 on or after 2000 amendments)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

The contents of each column in Table 2.1 are as follows.

1. CARGOES (column “a”)

Bulk Cargo Shipping Name is expressed in capital letters and identifies bulk cargo during transport by sea.

2. IMO class (column “b”)

Group B cargoes are categorized into the following classes.

Class 4.1 : Flammable solids

Class 4.2 : Substances liable to spontaneous combustion

Class 4.3 : Substances which, in contact with water, emit flammable gases

Class 5.1 : Oxidizing substances (agents)

Class 7 : Radioactive materials

Class 8 : Corrosive solid substances

Class 9 : Miscellaneous dangerous substances and articles

MHB : Materials which may possess chemical hazards when transported in bulk other than materials classified as dangerous goods in the IMDG Code.

3. UN No. (column “c”)

This is a 4-digit number assigned to a particular dangerous substance included in the dangerous substance list (approximately 3,000 items) within the United Nations Recommendations on the Transport of Dangerous Goods issued by the United Nations Committee of Experts on the Transport of Dangerous Goods.

4. Group (column “d”)

A : Group A consists of cargoes which possess a hazard due to moisture that may result in liquefaction or dynamic separation if shipped at a moisture content in excess of their transportable moisture limit.

B : Group B consists of cargoes which possess a chemical hazard which could give rise to a dangerous situation on a ship.

C : Group C consists of cargoes which are neither classified as Group A nor Group B.

5. Stowage (column “e”)

A : Bulkheads to the engine room are to be insulated to A-60 standard or to be isolated by the spaces (e.g. FOT, DOT, Void Space).

F : Boundaries of components are to be resistant to fire and passage of water.

G : Bulkheads to the engine room are to be of gastight.

6. NO SMOKING sign (column “f”)

Y : “NO SMOKING” signs are to be posted on decks and in areas adjacent to cargo compartments.

7. Ventilation (column “g”)

N : Natural ventilation is to be provided for cargo holds.

Nm : Natural ventilation or mechanical ventilation fan is to be provided for cargo holds.

M : Mechanical ventilation fan is to be provided for cargo holds.

ML2 : At least two mechanical ventilation fans are to be provided for cargo holds. The total ventilation is to be at least six air changes per hour. Ventilation openings are to comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure. The height of coaming is to be equal to or more than the regulated height (Position 1: 4.5 m, Position 2: 2.3 m).

ML1 : Mechanical ventilation fan is to be provided for cargo holds. Ventilation openings are to comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure. The height of coaming is to be equal to or more than the regulated height (Position 1: 4.5 m, Position 2: 2.3 m).

MSp : Two spare whole ventilation sets are to be provided, or two spare parts (motor, impeller, bearing, etc.) of mechanical ventilation fans are to be provided onboard.

Sa : Mechanical ventilation fans are to be safe for use in a flammable atmosphere.

Sp : Spark-arresting screens (wire mesh guards with max. 13mm X 13mm) are to be fitted to ventilation openings.

8. SCBA (column “h”)
Y : Two sets of self-contained breathing apparatuses with 200% spare cylinders are to be additionally provided.
9. Protective clothing resistant to chemical attack (column “i”)
Y : Four sets of protective clothing which consist of a pair of gloves, boots, protective clothing and helmet with goggles are to be additionally provided.
10. Bilge line (column “j”)
F : In case bilge lines are led to machinery space, bilge line is to be isolated by fitting a blank flange or a closed lockable valve.
N : A notice is to be placed adjacent to the valve warning against opening without the master’s permission.
11. Electrical equipment (column “k”)
Not suitable explosion protected type electrical equipment is to be disconnected (by removal of links in the system, other than fuses) from the power source at a point external to the space.
IIAT2: Electrical equipment having an explosion protection grade of IIAT2 or upwards is considered as suitable explosion protected type electrical equipment.
IIAT3: Electrical equipment having an explosion protection grade of IIAT3 or upwards is considered as suitable explosion protected type electrical equipment.
IIAT4: Electrical equipment having an explosion protection grade of IIAT4 or upwards is considered as suitable explosion protected type electrical equipment.
IICT1: Electrical equipment having an explosion protection grade of IICT1 or upwards is considered as suitable explosion protected type electrical equipment.
IICT2: Electrical equipment having an explosion protection grade of IICT2 or upwards is considered as suitable explosion protected type electrical equipment.
ST: IICT6 or IS
IICT6: Electrical equipment having an explosion protection grade of IICT6 or upwards is considered as suitable explosion protected type electrical equipment.
IS: Intrinsically safe type electrical equipment is considered suitable explosion-protected type electrical equipment.
12. Dual-purpose nozzles (column “l”)
Y : Nozzles provided with fire hoses are to be of dual-purpose type (i.e., spray/jet type).
13. 4 jets of water (column “m”)
Y : The quantity of water delivered is to be capable of supplying four nozzles at pressure as specified in SOLAS regulation and being trained on any part of the cargo space when empty.
14. Heating Arrangement (column “n”)
N1 : The means to disconnect heating arrangements for the tank(s) are to be provided.
N2 : The means to monitor and control the temperature of the boundary between the tank(s) and cargo space loading the cargo so that it does not exceed 50°C are to be provided.
15. Requirements of SOLAS Reg.II-2/54.2 (Reg.II-2/19.3 on or after 2000 amendments) (column “o” ~ “v”)
X : Applicable.
16. FFEA (SOLAS Reg.II-2/10.7.1.3) (column “w”)
Yes : Fixed gas fire-extinguishing system for cargo holds is required by SOLAS Reg.II-2/10.7.1.3.
(Yes): Fixed gas fire-extinguishing system is ineffective and for which a fixed fire-extinguishing system giving equivalent protection shall be available. According to the Unified Interpretation of IMO, water supplies defined in SOLAS Reg.II-2/19.3.1.2 are considered as the alternative to a fixed gas fire-extinguishing system in cargo spaces.

General notes:

- For the detailed requirements of the IMSBC Code, the relevant part of the Code should be referred to.
- The application of the requirements of SOLAS Reg.II-2/54.2 or 19.3 is shown just for ready reference.

The relevant part of the SOLAS should be referred to for the detailed requirements.

- Blank columns mean “Not applicable”.

- Notes :
1. CASTOR MEAL, CASTOR POMACE and CASTOR FLAKE shall not be carried in bulk.
 2. For the planned voyage not exceeding 5 days from the commencement of loading to the completion of discharge, the ship may be exempted from the requirements of FFEA.
 3. Consideration shall be given to providing the ship with the means to top up the cargo spaces with additional supplies of inert gas taking into account the duration of the voyage. The ship's fixed CO2 fire extinguishing system shall not be used for this purpose.
 4. Mechanical ventilation is to be available at all times. Measures to be adopted to avoid a situation whereby the cargo hold mechanical ventilation system could not be used due to rough seas.
 5. Only applicable to Seedcake containing solvent extractions only.
 6. Fine grained sulphur (flowers of sulphur) shall not be transported in bulk.
 7. With a moisture content of 15% or more, the ship may be exempted from the requirements of FFEA.
 8. Only suitable wire mesh guards are required.
 9. Except Metal Sulphide Concentrates considered as presenting a low fire risk.



Table 2.2

IMSBC Code - Initial Checklist
(For cargoes other than COAL and BROWN COAL BRIQUETTES)

Columns	Requirements	Results
e	Stowage: <input type="checkbox"/> Bulkheads to the engine room are to be insulated to A-60 standard or to be isolated by the spaces (e.g. FOT, DOT, Void Space). <input type="checkbox"/> Boundaries of components are to be resistant to fire and passage of water. <input type="checkbox"/> Bulkheads to the engine room are to be of gastight.	<input type="checkbox"/>
f	NO SMOKING sign: <input type="checkbox"/> "NO SMOKING" signs are to be posted on decks and in areas adjacent to cargo compartment.	<input type="checkbox"/>
g	Ventilation: <input type="checkbox"/> Natural ventilation is to be provided for cargo holds. <input type="checkbox"/> Natural ventilation or mechanical ventilation fan is to be provided for cargo holds. <input type="checkbox"/> Mechanical ventilation fan is to be provided for cargo holds. <input type="checkbox"/> At least two mechanical ventilation fans are to be provided for cargo holds. The total ventilation is to be at least six air changes per hour. Ventilation openings are to comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure. The height of coaming is to be equal to or more than the regulated height (Position 1: 4.5 m, Position 2: 2.3 m). <input type="checkbox"/> Mechanical ventilation fan is to be provided for cargo holds. Ventilation openings are to comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure. The height of coaming is to be equal to or more than the regulated height (Position 1: 4.5 m, Position 2: 2.3 m). <input type="checkbox"/> Two spare whole ventilation sets are to be provided, or two spare parts (motor, impeller, bearing, etc.) of mechanical ventilation fans are to be provided onboard. <input type="checkbox"/> Ventilation fans are to be safe for use in a flammable atmosphere. <input type="checkbox"/> Spark-arresting screens (wire mesh guards with max. 13mm×13mm) are to be fitted to ventilation openings.	<input type="checkbox"/>
h	SCBA: <input type="checkbox"/> Two self-contained breathing apparatuses with 200% spare cylinders are to be additionally provided.	<input type="checkbox"/>
i	Protective clothing resistant to chemical attack: <input type="checkbox"/> Four sets of protective clothing which consists of boots, gloves, coverall and headgear are to be additionally provided.	<input type="checkbox"/>
j	Bilge line: <input type="checkbox"/> In case where bilge lines are led to machinery space, bilge lines are to be isolated either by fitting a blank flange or by a closed lockable valve. <input type="checkbox"/> A notice is to be placed adjacent to the valve warning against opening without the master's permission.	<input type="checkbox"/>
k	Electrical equipment: <input type="checkbox"/> Electrical equipment fitted in the cargo holds, including motors of mechanical ventilation systems, are to be of safe type having an explosion protection grade/type stated below or upwards. Not suitable explosion protected type electrical equipment are to be capable of being positively isolated from outside of the spaces. (<input type="checkbox"/> IIAT2 / <input type="checkbox"/> IIAT3 / <input type="checkbox"/> IIAT4 / <input type="checkbox"/> IICT1 / <input type="checkbox"/> IICT2 <input type="checkbox"/> IICT3 / <input type="checkbox"/> IICT4 / <input type="checkbox"/> Safe type (IICT6 or Intrinsically safe type)	<input type="checkbox"/>
l	Dual purpose nozzles <input type="checkbox"/> Nozzles provided with fire hoses are to be of dual-purpose type (i.e., spray/jet type).	<input type="checkbox"/>
m	4 jets of water <input type="checkbox"/> The quantity of water delivered is to be capable of supplying four nozzles at pressure as specified in SOLAS regulation and being trained on any part of the cargo space when empty.	<input type="checkbox"/>
n	Heating arrangement <input type="checkbox"/> The means to disconnect heating arrangement for the tank(s) are to be provided (spectacle flange). <input type="checkbox"/> The means to monitor and control the temperature so that it does not exceed 50°C are to be provided.	<input type="checkbox"/>
w	FFEA <input type="checkbox"/> Fixed gas fire-extinguishing system is to be provided for cargo holds.	<input type="checkbox"/>

- Note: 1. The requirements checked are applied to the ship.
 2. The results of confirmation survey on board have been shown in the right columns. For the requirements complied with, the columns should be checked. For the requirements not applied, "NA" should be entered in the columns.

Table 2.3

**IMSBC Code - Initial Checklist
(For COAL and BROWN COAL BRIQUETTES)**

1	Boundaries of cargo spaces are to be resistant to fire and liquids.	<input type="checkbox"/>
2	Electrical equipment fitted in the cargo holds are to be of safe type having an explosion protection grade of IIA T4 or upwards. Not suitable explosion protected type electrical equipment are to be capable of being positively isolated from outside of the spaces and have the enclosure having a protection degree of IP55 or upwards, and caution plates to ensure isolation of electrical equipment are to be provided.	<input type="checkbox"/>
3	Suitable means for measuring following gases, etc. in cargo spaces without entry into such spaces are to be provided. Methane Oxygen Carbon monoxide pH value Temperature (0 - 100°C)	<input type="checkbox"/>
4(*)	Two sets of self-contained breathing apparatus are to be provided. (Note: The apparatus required by SOLAS Reg.II-2/17(00E) or Reg.II-2/10(00N) may be used for this purpose)	<input type="checkbox"/>
5	"No Smoking" signs are to be posted in conspicuous places.	<input type="checkbox"/>
6(*)	Natural ventilation system is to be provided for cargo spaces and air holes should be provided at the upper part of web plates of longitudinal and transverse girders fitted to deck plates with appropriate spacing. Note: Air holes should not be located at any part that may be subject to stress concentration.	<input type="checkbox"/>
7	Natural or mechanical ventilation systems are to be provided for adjacent enclosed working spaces, such as store rooms, carpenter's shops, passageways, tunnels. In the case of mechanical ventilation, only the equipment which is safe type for use in an explosive atmosphere can be used in cargo area.	<input type="checkbox"/>
8	Two sampling holes per hold, one on the port side and one on the starboard side of the hatch cover or upper parts of hatch coamings are to be provided with threaded stub and sealing cap.	<input type="checkbox"/>

- Note:
1. The items marked with (*) are not applicable to brown coal (lignite) briquettes.
 2. The results of confirmation survey on board have been shown in the right columns. For the requirements complied with, the columns should be checked. For the requirements not applied, "NA" should be entered in the columns.

Table 2.4

Documents/information to be submitted

Required items (1) Column of Table 2.2 (2) Regulation of SOLAS II-2/54 (II-2/19)			Documents/information to be submitted The meanings of “H” and “L” are specified under this table.	
(1)	(2)			
e	2.8 (3.8)	“A-60” class insulation of bulkheads between the cargo space and engine room	H	Drawings of fire protection construction Type and manufacture of the material
f	--	“NO SMOKING” signs	L	Number and locations of the signs
g	--	Natural ventilation.	H	Drawings of the system
	2.4.3 (3.4.3)	Natural or mechanical ventilation.		
	--	Mechanical ventilation		
	2.4.1 (3.4.1)	Mechanical ventilation (total ventilation at least six air changes per hour)	H	Drawings of the system Calculations of the air changes
	--	The height of ventilation openings	H	Drawings of the system
	--	Spare of mechanical ventilation fan	H	Drawings of the system
	2.4.2 (3.4.2)	Non-sparking fans	L	Specifications
		Spark-arresting screens (wire mesh guard)	L	Specifications
h	2.6.2 (3.6.2)	Self-contained breathing apparatus	L	Type, manufacturer and specifications
i	2.6.1 (3.6.1)	Protective clothing resistant to chemicals		
j	--	Stop valves and blank flanges on the bilge lines on machinery space side	H	Drawing of bilge lines
k	2.2 (3.2)	Electrical equipment to be of safe type.	H	Arrangement and wiring diagram of electrical equipment fitted in the space including grade of each equipment.
l	-	Jet/spray dual purpose type nozzle	L	Type, manufacturer and specifications
m	2.1.2 (3.1.2)	Capacity of fire pumps to supply four nozzles	H	Fire main piping diagram with arrangement of hydrant and pump capacity.
n	-	Heating arrangement	H	Drawing of heating arrangement. Drawing of the system for measuring and monitoring temperature.
w	-	Fixed gas fire-extinguishing system for cargo hold (FFEA)	H	Drawing of the system

H: To be submitted to Material and Equipment department for examination by the Head office.

L: To be submitted to the local office for their checking.

Table 2.5

Documents/information to be submitted for COAL/BROWN COAL BRIQUETTES

Requirements on Table 2.3	Documents/information to be submitted The meaning of “L” is specified under this table	
Boundaries of cargo spaces should be resistant to fire and liquids.	—	—
Electrical cables and components situated in cargo spaces and adjacent spaces should be free from defects and safe for use in explosive atmosphere or positively isolated.	L	Arrangement and wiring diagram of electrical equipment fitted in the space including grade of each equipment, such as IIAT4.
Appropriate instruments for measuring followings into cargo spaces without entry into such spaces should be provided. Methane Oxygen Carbon monoxide pH value Temperature (0 - 100°C)	L	Type, manufacturer and specifications
Two sets of self-contained breathing apparatus to be provided.	L	Type, manufacturer and specifications
“No Smoking” sign and “No naked flames” sign should be posted in conspicuous places.	L	Number and locations of the signs
Natural surface ventilation should be provided for cargo spaces.	L	Drawings of the ventilation systems Arrangement of air holes
Natural or mechanical ventilation should be provided for enclosed working spaces, such as store rooms, carpenter's shops, passageways, and tunnels. Mechanical ventilation, if used, should be of safe type for use in an explosive atmosphere.	L	Drawings of the system
Two sampling holes per hold, one on each side of the hatch cover should be provided with threaded stub and sealing cap.	L	Drawings of the system

L: To be submitted to the local office for their checking.

4 ALBERT EMBANKMENT
LONDON SE1 7SR

Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1395/Rev.6
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**LISTS OF SOLID BULK CARGOES FOR WHICH A FIXED GAS FIRE-EXTINGUISHING
SYSTEM MAY BE EXEMPTED OR FOR WHICH A FIXED GAS FIRE-EXTINGUISHING
SYSTEM IS INEFFECTIVE**

1 The Maritime Safety Committee, at its sixty-fourth session (5 to 9 December 1994), agreed that there was a need to provide Administrations with guidelines regarding the provisions of SOLAS regulation II-2/10 concerning exemptions from the requirements for fire-extinguishing systems.

2 Consequently, the Committee approved MSC/Circ.671 whereby it agreed to:

- .1 a list of solid bulk cargoes, for which a fixed gas fire-extinguishing system may be exempted (table 1) and recommended Member States to take into account the information contained in table 1 when granting exemptions under the provisions of SOLAS regulation II-2/10.7.1.4; and
- .2 a list of solid bulk cargoes for which a fixed gas fire-extinguishing system is ineffective (table 2), and recommended that cargo spaces in a ship engaged in the carriage of cargoes listed in table 2 be provided with a fire-extinguishing system which provides equivalent protection. The Committee also agreed that Administrations should take account of the provisions of SOLAS regulation II-2/19.3.1 when determining suitable requirements for an equivalent fire-extinguishing system.

3 The Maritime Safety Committee, at its seventy-ninth session (1 to 10 December 2004), reviewed the above-mentioned tables and approved MSC/Circ.1146. The Committee decided that the annexed tables should be periodically reviewed and invited Member States to provide the Organization, when granting exemptions to ships for the carriage of cargoes not included in table 1, with data on the non-combustibility or fire risk properties of such cargoes. Member States were also requested to provide the Organization, when equivalent fire-extinguishing systems are required for the agreed carriage of cargoes not included in table 2, with data on the inefficiency of fixed gas fire-extinguishing systems for such cargoes.

4 The Maritime Safety Committee, at its eighty-ninth session (11 to 20 May 2011), noting the mandatory status of the IMSBC Code, reviewed the aforementioned lists of solid bulk cargoes to align certain names in the lists with those in the recent version of the IMDG Code and approved MSC.1/Circ.1395 on *Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective*, superseding MSC/Circ.1146. The Maritime Safety Committee, at its ninety-second session (12 to 21 June 2013), approved a revision of MSC.1/Circ.1395 (MSC.1/Circ.1395/Rev.1).

5 The Maritime Safety Committee, at its ninety-fifth session (3 to 12 June 2015), considering a proposal by the Sub-Committee on Carriage of Cargoes and Containers, at its first session, approved a revision of tables 1 and 2 of MSC.1/Circ.1395/Rev.1 (MSC.1/Circ.1395/Rev.2).

6 The Maritime Safety Committee, at its ninety-eighth session (7 to 16 June 2017), considering a proposal by the Sub-Committee on Carriage of Cargoes and Containers, at its third session, approved a revision of tables 1 and 2 of MSC.1/Circ.1395/Rev.2 (MSC.1/Circ.1395/Rev.3).

7 The Maritime Safety Committee, at its 101st session (5 to 14 June 2019), considering a proposal by the Sub-Committee on Carriage of Cargoes and Containers, at its third session, approved a revision of tables 1 and 2 of MSC.1/Circ.1395/Rev.3 (MSC.1/Circ.1395/Rev.4).

8 The Maritime Safety Committee, at its 105th session (20 to 29 April 2022), considering the proposal by the Sub-Committee on Carriage of Cargoes and Containers, at its seventh session, approved a revision of tables 1 and 2 of MSC.1/Circ.1395/Rev.4.

9 The Maritime Safety Committee, at its 107th session (31 May to 9 June 2023), considering the proposal by the Sub-Committee on Carriage of Cargoes and Containers, at its eighth session, approved a revision of MSC.1/Circ.1395/Rev.5, as set out in the annex.

10 The purpose of this circular is to provide guidance to Administrations. However, Administrations are not prevented from granting exemptions for cargoes not included in table 1 or imposing any conditions when granting such exemptions under the provisions of SOLAS regulation II-2/10.7.1.4.

11 This circular supersedes MSC.1/Circ.1395/Rev.5.

ANNEX**TABLE 1****LIST OF SOLID BULK CARGOES FOR WHICH A FIXED
GAS FIRE-EXTINGUISHING SYSTEM MAY BE EXEMPTED**

- 1 Cargoes including, but not limited to, those listed in SOLAS regulation II-2/10:
 - Ore
 - Coal (COAL and BROWN COAL BRIQUETTES)
 - Grain
 - Unseasoned timber
- 2 Cargoes listed in the International Maritime Solid Bulk Cargoes (IMSBC) Code, which are not combustible or constitute a low fire risk, as follows:
 - .1 all cargoes not categorized into group B in the IMSBC Code;
 - .2 the following cargoes categorized into group B in the IMSBC Code:
 - ALUMINA HYDRATE
 - ALUMINIUM SMELTING BY-PRODUCTS UN 3170
(Both the names ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS are in use as proper shipping name)
 - ALUMINIUM FERROSILICON POWDER UN 1395
 - ALUMINIUM SILICON POWDER, UNCOATED UN 1398
 - AMORPHOUS SODIUM SILICATE LUMPS
 - BORIC ACID
 - CLINKER ASH
 - COAL TAR PITCH
 - DIRECT REDUCED IRON (A) Briquettes, hot-moulded
 - ELECTRIC ARC FURNACE DUST, PELLETIZED
 - FERROPHOSPHORUS (including briquettes)
 - FERROSILICON UN 1408, with 30% or more but less than 90% silicon (including briquettes)
 - FERROSILICON, with at least 25% but less than 30% silicon, or 90% or more silicon
 - FLUE DUST, CONTAINING LEAD AND ZINC
 - FLUORSPAR
 - GRANULATED NICKEL MATTE (less than 2% moisture content)
 - LEACH RESIDUE CONTAINING LEAD
 - LIME (UNSLAKED)
 - LOGS
 - MAGNESIA (UNSLAKED)
 - MATTE CONTAINING COPPER AND LEAD
 - MONOCALCIUMPHOSPHATE (MCP)
 - MONOAMMONIUM PHOSPHATE (M.A.P.), MINERAL ENRICHED COATING
 - PEAT MOSS

PETROLEUM COKE (calcined or uncalcined)*
 PITCH PRILL
 PULP WOOD
 PYRITES, CALCINED (calcined pyrites)
 RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I), non-fissile or fissile-excepted UN 2912
 RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-I), non-fissile or fissile-excepted UN 2913
 ROUNDWOOD
 SAND, MINERAL CONCENTRATE, RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-I) UN 2912
 SAW LOGS
 SILICOMANGANESE (low carbon)
 SULPHUR, UN 1350 (crushed lump and coarse grained)
 SUPERPHOSPHATE (triple, granular)
 TIMBER
 VANADIUM ORE
 WOODCHIPS, with moisture content of 15% or more
 WOOD PELLETS NOT CONTAINING ANY ADDITIVES AND/OR BINDERS
 ZINC ASHES UN 1435
 ZINC OXIDE ENRICHED FLUE DUST

- .3 cargoes assigned to the following generic group B shipping schedules when they do not exhibit any self-heating, flammability or water-reactive flammability hazards in accordance with the MHB tests and classification criteria contained in the Code:

METAL SULPHIDE CONCENTRATES
 METAL SULPHIDE CONCENTRATES, CORROSIVE UN 1759

- 3 Solid bulk cargoes which are not listed in the IMSBC Code, provided that:

- .1 they are assessed in accordance with section 1.3 of the Code;
- .2 they do not present hazards of group B as defined in the Code; and
- .3 a certificate has been provided by the competent authority of the port of loading to the master in accordance with 1.3.2 of the Code.

* When loaded and transported under the provisions of the IMSBC Code.

TABLE 2**LIST OF SOLID BULK CARGOES FOR WHICH A FIXED GAS FIRE-EXTINGUISHING SYSTEM IS INEFFECTIVE AND FOR WHICH A FIRE-EXTINGUISHING SYSTEM GIVING EQUIVALENT PROTECTION SHALL BE AVAILABLE**

The following cargoes are categorized into group B of the IMSBC Code:

ALUMINIUM NITRATE UN 1438

AMMONIUM NITRATE UN 1942, with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance

AMMONIUM NITRATE BASED FERTILIZER MHB

AMMONIUM NITRATE BASED FERTILIZER UN 2067

AMMONIUM NITRATE BASED FERTILIZER UN 2071

BARIUM NITRATE UN 1446

CALCIUM NITRATE UN 1454

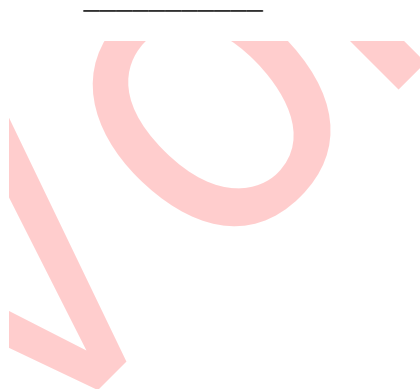
LEAD NITRATE UN 1469

MAGNESIUM NITRATE UN 1474

POTASSIUM NITRATE UN 1486

SODIUM NITRATE UN 1498

SODIUM NITRATE AND POTASSIUM NITRATE, MIXTURE UN 1499



Appendix: Ventilation of DIRECT REDUCED IRON(D)

When carrying DRI(D) newly added in the 7th amendment of IMSBC Code, mechanical ventilation fan shall be available at all times in order to keep the hydrogen concentration less than 1% by volume (25% LEL) generated by the cargo. The requirements on ship construction/equipment of ventilation matter to DRI(D) are as specified below.

1. In order to ventilate the cargo holds at all times, the ventilation openings should be arranged at the height (Position 1: 4.5m, Position 2 : 2.3m) specified in Annex I, Rule 19 (3) of the Load Line Convention. Or measures shall be taken to avoid situations where mechanical ventilation fan cannot be used due to rough seas.

The requirements on construction/equipment of mechanical ventilation to DRI(D) are either ML1 or M as follows.

ML1: Mechanical ventilation fan is to be provided for cargo holds. Ventilation openings are to comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure. The height of coaming is to be equal to or more than the regulated height (Position 1: 4.5 m, Position 2: 2.3 m).

M: Mechanical ventilation fan is to be provided for cargo holds.

In case where the vessel applies with the above requirement "M" only, the following Note is to be referred to the DRI(D) in the cargo list of the IMSBC Code fitness certificate.

Mechanical ventilation fan is to be available at all times. Measures to be adopted to avoid a situation whereby the cargo hold mechanical ventilation fan could not be used due to rough seas.
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2. The number of mechanical ventilation fan is not specified in the IMSBC Code. ClassNK interprets that at least one mechanical ventilation fan (exhaust type) is acceptable if sufficient ventilation is ensured. Similarly, for Group B (MHB) cargoes for which continuous ventilation is required by the IMSBC Code, it has been revised to require the installation of at least one set of mechanical ventilation fan.
 - ALUMINIUM SMELTING / REMELTING BY-PRODUCTS, PROCESSED
 - FERROPHOSPHORUS (including BRIQUETTES)
3. Two spare sets of ventilation equipment are required for DRI(D). ClassNK interprets that

“spare sets of ventilation equipment” would be either spares of the whole equipment or the spare parts (motor, impeller, bearings, etc.). Whichever means is used, the ship’s crew must be able to repair and maintain the ventilation system in operation. (ClassNK Tentative Interpretation)

※That should be notified again when a unified interpretation clarifies this “spare”.

4. Mechanical ventilation fan shall be explosion-proof type certified for use in hazardous environments (explosive atmospheres).
5. Suitable wire mesh guards (not exceeding 13 mm x 13 mm mesh) shall be fitted in the openings on the open deck of the ventilation ducts.

Please note that for carrying the cargo to be required ventilation, it is necessary to submit the relevant drawings in accordance with Table 2.4.

<The following are excerpts from individual cargo schedules of DRI(D) Ventilation>

During the voyage, mechanical surface ventilation shall be provided in each cargo hold carrying this cargo, in order to keep the hydrogen concentration less than 1% by volume (25% LEL). The mechanical surface ventilation system shall be of a certified safe type for use in an explosive atmosphere, capable of ventilating the cargo surface, as stipulated in 3.5 of this Code. Suitable wire mesh guards shall be fitted over inlet and outlet ventilator openings.

Mechanical surface ventilation shall be available at all times, either by compliance with the Load Line Convention, Annex I, regulation 19(3), or by adopting measures to avoid a situation whereby the cargo hold mechanical ventilation system could not be used due to rough seas, such measures to be in keeping with good seamanlike practices as for similar cargoes emitting intermittent combustible gases and advice from weather routing service providers.

Two spare sets of ventilation equipment of a certified safe type for use in an explosive atmosphere shall be available on board the ship during the voyage. A crew member or other person with the ability to install the spare fans shall be available on board throughout the voyage. In addition, natural ventilation shall be provided in enclosed cargo holds intended for the carriage of this cargo.