

Subject

BC Code/IMSBC Code fitness certification

# **ClassNK**

## **Technical Information**

No. TEC-0772  
Date 21 May 2009

To whom it may concern

[Revisions of Guidance for BC Code fitness certification]

This is to notify that the guidance for BC Code fitness certification, which had been informed by ClassNK Technical Information No. TEC-0757, was partly revised. The summary of the revisions is to delete some requirements for construction or equipment, which may be followed by the vessel's operation, and to correct editorial errors, etc. The detailed revisions are shown below.

- Ch.1 / Table 1.1 : Item B6, C and D2 requirements were deleted.
- Ch.1 / Table 1.1 : Item G7 requirement was integrated with Item G6.
- Ch.1 / Table 1.2 : Item B6, C and D2 requirements were deleted.
- Ch.1 / Table 1.2 : The column of "Reg.II-2/53.1 or 10.7.1, FFEA" of "PEAT MOSS with a moisture content of more than 65% by weight-fine to coarse fibrous structure" was corrected, i.e., changed from "X" to "E".
- Ch.1 / Appendix 1.1: "Form of certificate" was changed.

For any questions about the above, please contact:

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1. Guidance for BC Code/IMSBC Code fitness certification

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## Chapter 1 Guidance for BC Code fitness certification

### 0101 General

Under the BC Code, materials are classified into those likely to liquefy listed in appendix A, those having chemical hazard listed in appendix B and others listed in appendix C. In this guidance, they are referred to as “appendix A cargoes”, “appendix B cargoes” and “appendix C cargoes” respectively.

### 0102 Requirements for construction and equipment

- 1. A loading manual and a stability information booklet are required to be provided onboard regardless of the types of cargoes intended to be carried.
- 2. No special construction and equipment is required for the carriage of appendices A and C cargoes except that specially designed portable divisions or permanent structural boundaries to confine any shift of cargo to an acceptable limit are required for the carriage of appendix A cargoes without appropriate restrictions on their moisture contents.
- 3. For the carriage of appendix B cargoes, ships are to be complied with the requirements for special construction and/or equipment specified in BC Code. The requirements for the carriage of appendix B cargoes except coal and brown coal (lignite) briquettes are summarized in Table 1.1 and 1.2. The requirements for the carriage of coal and brown coal (lignite) briquettes are shown in Table 1.3.

*Note 2.1: Appendix B provides special requirements for construction and equipment for fire protection and personnel protection as well as operational precautions and information on properties of each material.*

*Note 2.2: The applications of the requirements of SOLAS74 Reg.II-2/53 and 54 (Reg.II-2/10.7 and 19 under SOLAS2000) are also shown in Table 1.2 for ready reference.*

### 0103 Application

- 1. Applicant, the shipowner or their representative, or the shipbuilder, should submit an application containing the information on the items listed below to the local office or Material and Equipment Department (EQD) prior to the survey onboard the ship.
  - (1) Cargoes for which a BC Code fitness certificate is to be issued (For example, “Appendices A and C cargoes” or “Appendices A and C cargoes and (*names of appendix B cargoes*)”)
  - (2) In case where a survey onboard the ship is required, expected date and place of the survey and local agent to be contacted
  - (3) A list of documents submitted together with the application and of those expected to be submitted later, if any.
- 2. In case where dangerous goods are included in the cargoes, the applicant should also apply for the issue of a certificate of compliance with the requirements of SOLAS74 Reg.II-2/54 (*Reg.II-2/19 under SOLAS2000*) as necessary.
- 3. In case where a conversion or an alteration affecting a class requirement including the case mentioned in -2 above is made, the applicant should also apply for a class survey.

### 0104 Submission of documents

- 1. In case where the certification is requested for the carriage of appendix B cargoes, the applicant should submit the documents as shown in Table 1.4 (other than coal and brown coal (lignite) briquettes) and/or Table 1.5 (coal and brown coal (lignite) briquettes). For the specific construction and equipment of existing ships, if the ship’s compliance with the requirements, in the opinion of the surveyor, is capable of being checked by only the survey on board, submission of documents and document examination may be omitted.

- 2. In case where the certification is requested for the carriage of appendix A cargoes without appropriate restrictions on their moisture contents, the applicant should submit relevant structural drawings, stability calculations and other documents considered necessary by ClassNK.

#### **0105 Document examination, survey and issue of certificate**

- 1. Certification for cargoes other than appendices B cargoes  
For certification for the carriage of other cargoes than appendix B cargoes, either document examination or survey onboard the ship is not required in principle. The local office should issue a certificate in the Form 130 referring to Appendix 1.1 subject to the following.
  - (1) In case where any appendix A cargo is intended to be carried without appropriate restrictions on its moisture content, EQD should be contacted as examination of drawings of subdivision is required.
  - (2) In case where the ship is less than 100 meters in length,
    - (a) the local office should check that an appropriate loading manual containing information on allowable nominal specific gravity of cargo for each hold and longitudinal strength of the ship is provided onboard the ship, and
    - (b) "approved" in the condition 1 given in the certificate form should be deleted.
  - (3) In case where the authorization is not granted by the flag administration, "on behalf of ....." in the certificate form should be deleted.
- 2. Certification for cargoes including appendix B cargoes (except where appendix B cargo is only coal and/or brown coal (lignite) briquettes)  
For certification for the carriage of cargoes including appendix B cargoes (except where appendix B cargo is only coal and/or brown coal (lignite) briquettes), in addition to 0105-1, (1) through (3) below should be followed. For fluorspar (calcium fluoride), woodchips (with moisture content of 15% or more) and wood pulp pellets (with moisture content of 15% or more), however, as there is no special requirement for construction and equipment, document examination and survey on board mentioned in (1) and (2) below are not required. The local office should issue a certificate using the Form 130.
  - (1) As shown in Table 1.4, the head office (Hull Department, Machinery Department and/or EQD) or the local office should examine or check the documents. EQD should inform the applicant and the local office of the results of examination, and the local office of the time required for examination, if carried out by the head office.
  - (2) Based on the above (1) results of examination and the those of examination into the documents which should be submitted to the local office according to Table 1.4, the local office should :
    - (a) carry out a survey on board using Table 1.1 as checklist; and
    - (b) issue a certificate with the checklist attached.
  - (3) In case where certain cargo hold(s) are not permitted to be loaded in order to comply with such requirements to stow the cargo 3m away from a bulkhead between the engine room and cargo hold, the words "in all cargo holds" in the certificate form given in Appendix 1.1 should be replaced by, for instance, "in cargo holds No.1 to 4" according to the restriction.
- 3. Certification for cargoes including only coal and/or brown coal (lignite) briquettes as appendix B cargo.  
For certification for the carriage of cargoes including only coal and/or brown coal (lignite) briquettes as appendix B cargo, in addition to 0105-1, the following should be followed. Document examination on the head office is not required. Based on the results of examination into the documents listed in Table 1.5, the local office should carry out a survey on board using Table 1.3 as checklist and issue a certificate. The checklist should be

attached to the certificate.

**0106 Renewal and rewrite of the certificate (No alternation on cargo list)**

-1. Renewal of the certificate

Document examination on the head office is not required. The local office should carry out a survey on board using the attached table as checklist and issue a certificate based on the results of the survey. The checklist should be attached to the certificate.

-2. Rewrite of certificate due to flag change or change of ship's name

Document examination on the head office is not required. The local office should carry out a survey on board using the attached table as checklist and issue a certificate based on the results of the survey. The checklist should be attached to the certificate.

*Note 6.1: The period of validity of the certificate should be five years after the date of issue.*



**Table 1.1 - Requirements of BC Code for the carriage of Appendix B cargoes other than coal**  
(The following requirements govern the application of Table 1.2.)

|      |   |                          |
|------|---|--------------------------|
| A1   | Bulkheads between the cargo space and the engine room should be insulated to class "A-60" standard. Alternatively, means should be provided to enable the cargo to be stowed at least 3m horizontally away from such bulkheads.   | <input type="checkbox"/> |
| A2   | Means should be provided to enable the cargo to be stowed out of direct contact with a metal engine-room boundary.  | <input type="checkbox"/> |
| B1   | Natural or mechanical, preferably mechanical, ventilation should be provided in cargo holds.  | <input type="checkbox"/> |
| B2   | Natural ventilation should be provided in cargo holds.  | <input type="checkbox"/> |
| B3   | Mechanical ventilation should be provided in cargo holds.   | <input type="checkbox"/> |
| B4   | Mechanical ventilation with at least two separate fans should be provided in cargo holds. The total ventilation should be at least six air changes per hour, based on the empty space.  | <input type="checkbox"/> |
| B5   | Spark-arresting screens should be fitted to ventilators.  | <input type="checkbox"/> |
| D1   | In case where bilge lines are led to machinery space, stop valves and blank flanges should be provided on the bilge lines on machinery space side.  | <input type="checkbox"/> |
| E1   | Fixed fire extinguishing system should be provided in cargo holds.  | <input type="checkbox"/> |
| E2   | Fixed fire extinguishing system of CO <sub>2</sub> or inert gas system should be provided in cargo holds.   | <input type="checkbox"/> |
| F1   | Instrument for measuring temperature should be provided.  | <input type="checkbox"/> |
| F2   | At least two suitable detectors for quantitative measurements of phosphine and arsine should be provided.   | <input type="checkbox"/> |
| F3   | At least two suitable detectors for quantitative measurements of phosphine, arsine and silane should be provided.   | <input type="checkbox"/> |
| F4   | At least two suitable explosimeters capable of detecting flammable gases should be provided.  | <input type="checkbox"/> |
| F5   | Instrument for measuring oxygen and hydrogen should be provided.  | <input type="checkbox"/> |
| F6   | Instrument for measuring oxygen should be provided.   | <input type="checkbox"/> |
| G1-5 | Electrical equipment should be of safe type as follows.<br>G1: IIAT2 G2: IIAT3 G3: IIAT4 G4: IICT1 G5: IICT2  | <input type="checkbox"/> |
| G6   | All electrical circuits for/through cargo spaces are required to be isolated except water ingress alarm and all removal electric equipment (non-safety type) should not be used in cargo spaces. The isolation shall be achieved out side of the space, and a caution plate should be provided. | <input type="checkbox"/> |
| H    | Additional two sets of self-contained breathing apparatus with 200% spare charges should be provided.   | <input type="checkbox"/> |
| I    | Additional four sets of protective clothing resistant to various chemicals should be provided.  | <input type="checkbox"/> |
| J    | Dust mask and goggles should be provided.   | <input type="checkbox"/> |
| K    | "NO SMOKING" signs should be posted on decks and in areas adjacent to cargo compartments.   | <input type="checkbox"/> |
| L    | Nozzles for the fire main system should be of jet/spray dual purpose type, otherwise spray nozzles should be additionally provided.   | <input type="checkbox"/> |
| M    | Fire pump in engine room should be capable of starting from the navigation bridge. The outlet and inlet valves of the fire main in E/R is fitted with caution plate with "Keep Open" symbol.  | <input type="checkbox"/> |
| N    | The quantity of water delivered should be capable of supplying four nozzles at pressure as specified in SOLAS Reg. II-2/4 and being trained on any part of the cargo spaces when empty.   | <input type="checkbox"/> |

×: Complied -: Not applicable

Ship's name:

Class number:

Date:

Signature: \_\_\_\_\_

**Table 1.2 - Application of the requirements to different materials listed in Appendix B to BC Code**

General notes:

- For details of requirements of BC Code, the relevant part of BC Code as well as Table 1.1 and 1.2 of this appendix should be referred to.
- The application of the SOLAS requirements is shown just for ready reference. For details, the relevant part of SOLAS should be referred to.
- For installation of electrical equipment, in particular, applicable requirements of Part H of NK Rules are to be complied with.

Notes:

- 1 “X” means “applicable. “E” means “may be exempted from the requirement”.
- 2 Applicable to ships constructed on or after 1 July 1998.
- 3 Applicable to ships constructed before 1 July 1998.
- 4 As to pencil pitch, an exemption from the requirement may be granted.
- 5 If the moisture content is 15 % or more, an exemption from the requirement may be granted.
- 6 G5 is applicable to only non-briquettes.
- 7 Applicable to only solvent-extracted seed cakes.
- 8 The compliance with the requirement “4 jets of water” may be accepted as an alternative of this requirement.
- 9 As to sodium nitrate and chilean natural nitrate, the compliance with the requirement “4 jets of water” may be accepted as an alternative of this requirement.

| Material<br><br>(1) IMO class<br>(2) UN No./BC No.  | BC Code requirements |                    |                   |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      | SOLAS Reg. II-2/54.2 or 19.3 <sup>1</sup> |                 |                    |                 |                 |                  |                | Reg. II-2/53.1 or 10.7.1, FFEA |               |                    |                 |
|---|----------------------|--------------------|-------------------|---------------------|---------------------|---------------|-------------|-----------------------|-----------------|-------------------|--------------------|-------------------|------------------|----------------------|---|-----------------|--------------------|-----------------|-----------------|------------------|----------------|--------------------------------|---------------|--------------------|-----------------|
|   | (1)                  | (2)                | A-60/ segregation | Ventilation systems | F.O.T. leak testing | Bilge systems | FFEA or IGS | Measuring instruments | Explosion proof | Breath. apparatus | Protective closing | Dust mask/goggles | NO SMOKING signs | Dual-purpose nozzles | F.P. remote starting                      | 4 jets of water | F.P. remote start. | 4 jets of water | Explosion proof | Mechanical vent. | Safe-type fan  |                                | Natural vent. | Personnel protect. | A-60 insulation |
| ALUMINIUM FERROSILICON POWDER<br>(incl. Briquettes) | 4.3                  | 1395               | —                 | B4                  | —                   | —             | —           | F2                    | G5              | H                 | —                  | —                 | K                | —                    | —   | —               | —                  | —               | X               | X                | X              | —                              | X             | X                  | E               |
| ALUMINIUM NITRATE                                   | 5.1                  | 1438               | —                 | —                   | —                   | —             | —           | —                     | H               | I                 | —                  | —                 | L                | —                    | —   | X               | X                  | —               | —               | —                | X              | X                              | —             | X <sup>8</sup>     |                 |
| ALUMINIUM SILICON POWDER, UNCOATED                  | 4.3                  | 1398               | —                 | B4                  | —                   | —             | —           | F3                    | G5              | H                 | —                  | —                 | K                | —                    | —   | —               | —                  | —               | X               | X                | X              | —                              | X             | X                  | E               |
| ALUMINIUM SMELTING BY-PRODUCTS                      | 4.3                  | 3170               | —                 | B4<br>B5            | —                   | DI            | —           | F4                    | G5              | H                 | —                  | —                 | K                | —                    | —   | —               | —                  | —               | X               | X                | X              | —                              | X             | X                  | E               |
| AMMONIUM NITRATE                                    | 5.1                  | 1942               | A1                | —                   | —                   | —             | —           | —                     | G6              | H                 | I                  | —                 | K                | —                    | M   | —               | X                  | X               | X               | —                | X <sup>2</sup> | X                              | X             | X                  | X <sup>8</sup>  |
| AMMONIUM NITRATE FERTILIZERS, Type A                | 5.1                  | 2067<br>to<br>2070 | A1                | —                   | —                   | —             | —           | —                     | G6              | H                 | I                  | —                 | K                | —                    | M   | —               | X                  | X               | X               | —                | X <sup>2</sup> | X                              | X             | X                  | X <sup>8</sup>  |

| Material<br><br>(1) IMO class<br>(2) UN No./BC No.   |     |      | BC Code requirements |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | SOLAS Reg. II-2/54.2 or 19.3 <sup>1</sup> |                 |                 |                  |                |               | Reg. II-2/53.1 or 10.7.1, FFEA |                    |                 |   |
|--|-----|------|----------------------|---------------------|---------------------|---------------|-------------|-----------------------|-----------------|-------------------|--------------------|-------------------|------------------|----------------------|----------------------|-----------------|---|-----------------|-----------------|------------------|----------------|---------------|--------------------------------|--------------------|-----------------|---|
|  |     |      | A-60/ segregation    | Ventilation systems | F.O.T. leak testing | Bilge systems | FFEA or IGS | Measuring instruments | Explosion proof | Breath. apparatus | Protective closing | Dust mask/goggles | NO SMOKING signs | Dual-purpose nozzles | F.P. remote starting | 4 jets of water | F.P. remote start.                        | 4 jets of water | Explosion proof | Mechanical vent. | Safe-type fan  | Natural vent. |                                | Personnel protect. | A-60 insulation |   |
| (1)  | (2) |      |                      |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 |   |                 |                 |                  |                |               |                                |                    |                 |   |
| AMMONIUM NITRATE FERTILIZERS, Type B   | 9   | 2071 | A2                   | —                   | —                   | —             | —           | —                     | G6              | H                 | I                  | —                 | K                | —                    | —                    | N               | X   | X               | X               | —                | X <sup>2</sup> | X             | X                              | —                  | X <sup>8</sup>  |   |
| BARIUM NITRATE   | 5.1 | 1446 | —                    | —                   | —                   | —             | —           | —                     | —               | H                 | I                  | —                 | —                | L                    | —                    | —               | X   | X               | —               | —                | —              | X             | X                              | —                  | X <sup>8</sup>  |   |
| BROWN COAL (LIGNITE) BRIQUETTES  | MHB | 002  | See Table 1.3.       |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | —   | —               | —               | —                | —              | —             | —                              | —                  | —               | E |
| CALCINED PYRITES (Pyritic ash, Fly ash)  | MHB | 003  | —                    | —                   | —                   | —             | —           | —                     | —               | —                 | —                  | —                 | —                | —                    | —                    | —               | —   | —               | —               | —                | —              | —             | —                              | —                  | E               |   |
| CALCIUM NITRATE  | 5.1 | 1454 | —                    | —                   | —                   | —             | —           | —                     | —               | H                 | I                  | —                 | —                | L                    | —                    | —               | X   | X               | —               | —                | —              | X             | X                              | —                  | X <sup>8</sup>  |   |
| CASTOR BEANS   | 9   | 2969 | —                    | —                   | —                   | —             | —           | —                     | —               | H                 | I                  | J                 | —                | L                    | —                    | —               | X   | X               | —               | —                | —              | X             | X                              | —                  | X               |   |
| CHARCOAL   | MHB | 005  | —                    | —                   | —                   | —             | —           | —                     | —               | —                 | —                  | —                 | —                | —                    | —                    | —               | —   | —               | —               | —                | —              | —             | —                              | —                  | X               |   |
| COAL   | MHB | 010  | See Table 1.3.       |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | —   | —               | —               | —                | —              | —             | —                              | —                  | —               | E |
| COPRA, dry   | 4.2 | 1363 | —                    | B2                  | —                   | —             | —           | —                     | —               | —                 | —                  | —                 | K                | —                    | —                    | —               | X   | X               | —               | —                | —              | X             | X                              | X                  | X               |   |
| DIRECT REDUCED IRON, DRI<br>(not to be confused with iron sponge, spent) such as lumps,<br>pellets and cold-moulded briquettes | MHB | 015  | —                    | —                   | —                   | —             | —           | F5                    | G5              | —                 | —                  | —                 | —                | —                    | —                    | —               | —   | —               | —               | —                | —              | —             | —                              | —                  | X               |   |
| DIRECT REDUCED IRON (Briquettes, hot moulded)  | MHB | 016  | —                    | B2                  | —                   | —             | —           | F6                    | G5              | —                 | —                  | —                 | —                | —                    | —                    | —               | —   | —               | —               | —                | —              | —             | —                              | —                  | E               |   |
| FERROPHOSPHORUS (including Briquettes) <sup>6</sup>  | MHB | 020  | —                    | B3                  | —                   | —             | —           | G4                    | H               | —                 | —                  | —                 | —                | —                    | —                    | —               | —   | —               | —               | —                | —              | —             | —                              | —                  | E               |   |
| FERROSILICON, with 30% or more but less than<br>90% silicon (including Briquettes)   | 4.3 | 1408 | —                    | B4<br>B5            | —                   | D1            | —           | F2                    | G4              | H                 | —                  | —                 | K                | —                    | —                    | —               | —   | —               | —               | X                | X              | X             | —                              | X                  | X               | E |

| Material<br><br>(1) IMO class<br>(2) UN No./BC No.  |     |      | BC Code requirements |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | SOLAS Reg. II-2/54.2 or 19.3 <sup>1</sup> |                 |                 |                  |               |               | Reg. II-2/53.1 or 10.7.1, FFEA |                    |                 |
|---|-----|------|----------------------|---------------------|---------------------|---------------|-------------|-----------------------|-----------------|-------------------|--------------------|-------------------|------------------|----------------------|----------------------|-----------------|---|-----------------|-----------------|------------------|---------------|---------------|--------------------------------|--------------------|-----------------|
|   |     |      | A-60/ segregation    | Ventilation systems | F.O.T. leak testing | Bilge systems | FFEA or IGS | Measuring instruments | Explosion proof | Breath. apparatus | Protective closing | Dust mask/goggles | NO SMOKING signs | Dual-purpose nozzles | F.P. remote starting | 4 jets of water | F.P. remote start.                        | 4 jets of water | Explosion proof | Mechanical vent. | Safe-type fan | Natural vent. |                                | Personnel protect. | A-60 insulation |
| FERROSILICON, containing 25% to 30%silicon,or 90% or more silicon (including Briquettes)      | MHB | 022  | -                    | B4<br>B5            | -                   | DI            | -           | F2                    | G4              | H                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | E                  |                 |
| FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS   | 4.2 | 2793 | -                    | -                   | -                   | -             | -           | F1                    | -               | H                 | -                  | -                 | K                | -                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | X                  | X               |
| FISHMEAL, STABILIZED and FISHSCRAP, STABILIZED anti-oxidant treated                           | 9   | 2216 | -                    | -                   | -                   | -             | E2          | F1                    | -               | H                 | -                  | -                 | -                | -                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X               |
| FLUORSPAR (calcium fluoride)  | MHB | 025  | -                    | -                   | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| IRON OXIDE, IRON SPONGE, spent  | 4.2 | 1376 | -                    | -                   | -                   | -             | -           | -                     | G1              | H                 | I                  | -                 | K                | L                    | -                    | -               | X   | X               | X <sup>3</sup>  | -                | -             | X             | X                              | X                  | X               |
| LEAD NITRATE  | 5.1 | 1469 | -                    | -                   | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X <sup>8</sup>  |
| LIME (UNSLAKED)   | MHB | 030  | -                    | -                   | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | J                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| MAGNESIA (UNSLAKED)   | MHB | 032  | -                    | -                   | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | J                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| MAGNESIUM NITRATE   | 5.1 | 1474 | -                    | -                   | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X <sup>8</sup>  |
| METAL SULPHIDE CONCENTRATES   | MHB | 035  | -                    | -                   | -                   | -             | E1          | -                     | -               | H                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | X               |
| PEAT MOSS with a moisture content of more than 65% by weight-fine to coarse fibrous structure | MHB | 038  | -                    | B2                  | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | J                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| PETROLEUM COKE, calcined or uncalcined  | MHB | 040  | -                    | -                   | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| PITCH PRILL, PRILLED COAL TAR, PENCIL PITCH   | MHB | 050  | -                    | -                   | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | X <sup>4</sup>  |

| Material<br><br>(1) IMO class<br>(2) UN No./BC No.                                |     |      | BC Code requirements |                             |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | SOLAS Reg. II-2/54.2 or 19.3 <sup>1</sup> |                 |                 |                  |               |               | Reg. II-2/53.1 or 10.7.1, FFEA |                    |                 |
|---|-----|------|----------------------|-----------------------------|---------------------|---------------|-------------|-----------------------|-----------------|-------------------|--------------------|-------------------|------------------|----------------------|----------------------|-----------------|---|-----------------|-----------------|------------------|---------------|---------------|--------------------------------|--------------------|-----------------|
|   |     |      | A-60/ segregation    | Ventilation systems         | F.O.T. leak testing | Bilge systems | FFEA or IGS | Measuring instruments | Explosion proof | Breath. apparatus | Protective closing | Dust mask/goggles | NO SMOKING signs | Dual-purpose nozzles | F.P. remote starting | 4 jets of water | F.P. remote start.                        | 4 jets of water | Explosion proof | Mechanical vent. | Safe-type fan | Natural vent. |                                | Personnel protect. | A-60 insulation |
| (1)   | (2) |      |                      |                             |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 |   |                 |                 |                  |               |               |                                |                    |                 |
| POTASSIUM NITRATE (SALTPETRE)   | 5.1 | 1486 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X <sup>8</sup>  |
| RADIOACTIVE MATERIAL,<br>LOW SPECIFIC ACTIVITY MATERIAL (LSA-I)                   | 7   | 2912 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| RADIOACTIVE MATERIAL,<br>SURFACE CONTAMINATED OBJECT(S) (SCO-I)                   | 7   | 2913 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| SAWDUST   | MHB | 055  | -                    | -                           | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | X               |
| SEED CAKE (a), containing vegetable oil, MEAL, OIL<br>CAKE, SEED EXPELLERS        | 4.2 | 1386 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | -                  | -                 | K                | -                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | X                  | X               |
| SEED CAKE (b), containing vegetable oil, MEAL, OIL<br>CAKE, SEED EXPELLERS        | 4.2 | 1386 | -                    | B2<br>B3 <sup>7</sup><br>B5 | -                   | -             | F2          | -                     | G2 <sup>7</sup> | H                 | -                  | -                 | K                | -                    | -                    | -               | X   | X               | X               | X                | X             | -             | X                              | X                  | X               |
| SEED CAKE (c), containing vegetable oil, MEAL,<br>OILCAKE, SEED EXPELLERS         | 4.2 | 2217 | -                    | B3<br>B5                    | -                   | -             | F2          | -                     | G2              | H                 | -                  | -                 | K                | -                    | -                    | -               | X   | X               | X               | X                | X             | -             | X                              | X                  | X               |
| SILICONMANGANESE  | MHB | 060  | -                    | B3                          | -                   | -             | -           | -                     | G4              | H                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                              | -                  | E               |
| SODIUM NITRATE, CHILE SALTPETRE, CHILEAN<br>NATURAL NITRATE                       | 5.1 | 1498 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X <sup>9</sup>  |
| SODIUM NITRATE and POTASSIUM NITRATE,<br>mixture CHILEAN NATURAL POTASSIC NITRATE | 5.1 | 1499 | -                    | -                           | -                   | -             | -           | -                     | -               | H                 | I                  | -                 | -                | L                    | -                    | -               | X   | X               | -               | -                | -             | X             | X                              | -                  | X <sup>8</sup>  |
| SULPHUR (lump or coarse grained powder)   | 4.1 | 1350 | -                    | B1<br>B5                    | -                   | -             | -           | -                     | G3              | H                 | -                  | -                 | K                | -                    | -                    | -               | X   | X               | X               | -                | X             | X             | X                              | X                  | E               |

| Material<br><br>(1) IMO class<br>(2) UN No./BC No.                  |     |      | BC Code requirements |                     |                     |               |             |                       |                 |                   |                    |                   |                  |                      |                      |                 | SOLAS Reg. II-2/54.2 or 19.3 <sup>1</sup> |                 |                 |                  |               |               |                    |                 |
|---|-----|------|----------------------|---------------------|---------------------|---------------|-------------|-----------------------|-----------------|-------------------|--------------------|-------------------|------------------|----------------------|----------------------|-----------------|---|-----------------|-----------------|------------------|---------------|---------------|--------------------|-----------------|
|   |     |      | A-60/ segregation    | Ventilation systems | F.O.T. leak testing | Bilge systems | FFEA or IGS | Measuring instruments | Explosion proof | Breath. apparatus | Protective closing | Dust mask/goggles | NO SMOKING signs | Dual-purpose nozzles | F.P. remote starting | 4 jets of water | F.P. remote start.                        | 4 jets of water | Explosion proof | Mechanical vent. | Safe-type fan | Natural vent. | Personnel protect. | A-60 insulation |
| TANKAGE, Garbage tankage, Rough ammonia tankage, Tankage fertilizer | MHB | 065  | -                    | -                   | -                   | -             | -           | Fl                    | -               | H                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                  | X               |
| VANADIUM ORE  | MHB | 070  | -                    | -                   | -                   | -             | -           | -                     | -               | H                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                  | E               |
| WOODCHIPS   | MHB | 075  | -                    | -                   | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                  | X <sup>5</sup>  |
| WOOD PULP PELLETS   | MHB | 080  | -                    | -                   | -                   | -             | -           | -                     | -               | -                 | -                  | -                 | -                | -                    | -                    | -               | -   | -               | -               | -                | -             | -             | -                  | X <sup>5</sup>  |
| ZINC ASHES, ZINC DROSS, ZINC RESIDUES, ZINC SKIMMINGS               | 4.3 | 1435 | -                    | B3                  | -                   | -             | -           | -                     | G5              | H                 | I                  | -                 | K                | -                    | -                    | -               | -   | X               | X               | X                | -             | X             | X                  | E               |

**Table 1.3**

**Requirements of BC Code for the carriage of coal/brown coal (lignite) briquettes**

|      |  |                          |
|------|--|--------------------------|
| 1    | Boundaries of cargo spaces should be resistant to fire and liquids.  | <input type="checkbox"/> |
| 2    | 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 as detailed below.   | <input type="checkbox"/> |
|      | — Electrical equipment fitted in the spaces should be of explosion protected type classified IAT4 or d1G4, or upward; or   | <input type="checkbox"/> |
|      | — electrical equipment fitted in the spaces, including motors of mechanical ventilation systems, should be capable of being positively isolated out side of the spaces and be at least of IP55 or upward, and caution plates to ensure isolation of electrical equipment should be provided.                     | <input type="checkbox"/> |
| 3    | Appropriate instruments for measuring followings into cargo spaces without entry into such spaces should be provided.<br>Methane<br>Oxygen<br>Carbon monoxide<br>pH value<br>Temperature( 0 - 100°C)   | <input type="checkbox"/> |
| 4    | Two sets of self-contained breathing apparatus 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" sign and "No naked flames" sign should be posted in conspicuous places.   | <input type="checkbox"/> |
| 6(*) | Natural surface ventilation should be provided for cargo spaces as detailed below.   | <input type="checkbox"/> |
|      | — Natural or mechanical ventilation systems should be provided; and  | <input type="checkbox"/> |
|      | — (00N) ventilation openings should be provided in the fore and aft end plates of hatch covers<br>(00E) ventilation openings should be provided in the fore and aft end plates of hatch covers or on upper deck; and   | <input type="checkbox"/> |
|      | — air holes should be provided at the upper part of web plates of longitudinal and transverse girders fitted to deck plates with appropriate spacing.<br>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 should be provided for adjacent enclosed working spaces, such as store rooms, carpenter's shops, passage ways, tunnels. In the case of mechanical ventilation, only the equipment, which is safe type for use in an explosive atmosphere should be used in cargo area. | <input type="checkbox"/> |
| 8    | Two sampling holes per hold, one on each side of the hatch cover should be provided with threaded stub and sealing cap.  | <input type="checkbox"/> |

Note ; (\*) : Not applicable to brown coal (lignite) briquettes  
(00N) : the new ships under SOLAS as amended in 2000  
(00E) : the existing ships under SOLAS as amended in 2000

×: Complied —: Not applicable

Ship's name:

Class number:

Date:

Signature: \_\_\_\_\_

**Table 1.4**

**Documents/information to be submitted**

|          |       | Required items  | Documents/information to be submitted                       |  |
|----------|-------|---|---|--|
| (1)      | (2)   | (1) Codes of BC Code requirements<br>(2) Paragraphs of SOLAS II-2/54                            | The meanings of “H” and “L” are specified under this table. |  |
| A1       | 2.8   | “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  |
|          |       | Alternative means to enable the cargo to be stowed at least 3m away from such bulkheads         | H   | Specifications and drawings  |
| A2       | -     | Means to enable the cargo to be stowed out of direct contact with a metal engine-room boundary. | H   | Specifications and drawings  |
| B1       | -     | Natural or mechanical ventilation.  | H   | Drawings of the system   |
| B2       | 2.4.3 | Natural ventilation   |   |  |
| B3       | -     | Mechanical ventilation  |   |  |
| B4       | 2.4.1 | Mechanical ventilation (total ventilation at least six air changes per hour)                    | H   | Drawings of the system<br>Calculations of the air changes  |
| B5       | 2.4.2 | Spark-arresting screens (wire mesh guard)   | L   | Specifications   |
| -        |       | Non-sparking fans   | L   | Specifications   |
| B6       | -     | Ventilation: any escaping gases can not reach living quarters on or under the deck.             | H   | Drawings of the system   |
| C        | -     | Testing of the fuel tanks   | L   | Fuel oil tank arrangement  |
| D1       | -     | Stop valves and blank flanges on the bilge lines on machinery space side                        | H   | Drawing of the bilge lines   |
| D2       | -     | Separation of bilge lines   |   |  |
| E1       | -     | Fixed fire extinguishing system   | H   | Specifications and drawings of the system  |
| E2       | -     | Fixed fire extinguishing system or IGS  |   |  |
| F        | -     | Instrument for measuring temperature, detecting flammable gases, etc.                           | L   | Type, manufacturer and specifications  |
| G<br>1-5 | 2.2   | Electrical equipment to be of safe type.  | H   | Arrangement and wiring diagram of electrical equipment fitted in the space including grade of each equipment, such as IIAT4. |
| G6       | -     | Caution plate (Electric fuses/no-fuse breakers should be extracted/cut off.)                    | -   | ---  |
| G7       | -     | Electrical circuits to be capable of being isolated out side of the space.<br>Caution plate     | H   | Wiring diagram of circuits for through cargo spaces  |
| H        | -     | Self-contained breathing apparatus  | L   | Type, manufacturer and specifications  |
| I        | 2.6   | Protective clothing resistant to chemicals  |   |  |
| J        | -     | Dust mask and goggles   | L   | Number and locations of the signs  |
| K        | -     | “NO SMOKING” signs  |   |  |
| L        | -     | Jet/spray dual purpose type nozzle  | L   | Type, manufacturer and specifications  |
| M        | 2.1.1 | Remote starting of fire pump<br>Caution plate with “Keep Open”                                  | H   | Wiring diagram of the remote control system  |
| N        | 2.1.2 | Capacity of fire pumps to supply four nozzles   | H   | Fire main piping diagram with arrangement of hydrant and pump capacity.  |

H: Three copies of documents are to be submitted to Material and Equipment department for examination by the Head office.

L: One copy is to be submitted to the local office for their checking.

**Table 1.5**

**Documents/information to be submitted for coal/brown coal (lignite) briquettes**

| Requirements of BC Code for the carriage of coal (Table 1.3 )   | Documents/information to be submitted<br>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.<br>Methane<br>Oxygen<br>Carbon monoxide<br>pH value<br>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. (Mechanical ventilation is not to be used.)  | 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, passage ways, tunnels. Mechanical ventilation, if used, should be of safe type for use in 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: One copy is to be submitted to the local office for their checking.

**Appendix 1.1 – Form of certificate**

**Certificate of Compliance  
with the Code of Safe Practice for Solid Bulk Cargoes (BC Code)**

No.

Name of ship :  
Distinctive number or letters :  
Port of Registry :  
Gross tonnage :  
Class Number :  
IMO Number :

This is to certify that the ship is suitable for the carriage in bulk of all cargoes listed in the attachment in the cargo holds stated in accordance with the provisions of the Code of Safe Practice for Solid Bulk Cargoes provided that;

1. the relevant construction and equipment are maintained in good order,
2. any cargo should be loaded and distributed in pursuant to information provided in the **approved\*** loading manual and the stability information booklet provided onboard the ship,
3. the nominal specific gravity of any cargo should not exceed the allowable value indicated in the loading manual, and
4. the remaining operational requirements stipulated in the Code should be ensured.

This certificate is valid until ( *date of five years after the date of issue* ).  
Completion date of the survey on which this certificate is based :  
Issued at ( *place* ) on ( *date* ) **on behalf of (the name of the flag government)\***.

NIPPON KAIJI KYOKAI

\_\_\_\_\_  
( *name* ), Surveyor

\_\_\_\_\_  
\* *Delete if not appropriate.*  
\*\* *The list of cargoes may be attached to this certificate.*

Attachment to the certificate No.

**List of Cargoes permitted to be carried.**

| NAME OF CARGOES                    | UN.<br>No. | IMO<br>Class | Cargo Holds     |
|------------------------------------|------------|--------------|-----------------|
| All cargoes of Group A and Group C | --         | --           | All cargo holds |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |
|                                    |            |              |                 |

Note:

-- End --



## Chapter 2 Guidance for IMSBC Code fitness certification

### 0201 General

Under the IMSBC Code, materials are classified into those likely to liquefy (Group A), those having chemical hazard (Group B) and others (Group C). In this guidance, they are referred to as “Group A cargoes”, “Group B cargoes” and “Group C cargoes” respectively.

### 0202 Requirements for construction and equipment

- 1. A loading manual and a stability information booklet are required to be provided onboard regardless of the types of cargoes intended to be carried.
- 2. No special construction and equipment is required for the carriage of Group A and C cargoes except that specially designed portable divisions or permanent structural boundaries to confine any shift of cargo to an acceptable limit are required for the carriage of Group A cargoes without appropriate restrictions on their moisture contents.
- 3. For the carriage of Group B cargoes, ships are to be complied with the requirements for special construction and/or equipment specified in IMSBC Code. The requirements for the carriage of Group B cargoes except coal and brown coal (lignite) briquettes are summarized in Table 2.1 and 2.2. The requirements for the carriage of coal and brown coal (lignite) briquettes are shown in Table 2.3.

*Note 2.1: The Code provides special requirements for construction and equipment for fire protection and personnel protection as well as operational precautions and information on properties of each material.*

*Note 2.2: The applications of the requirements of SOLAS74 Reg.II-2/53 and 54 (Reg.II-2/10.7 and 19 under SOLAS2000) are also shown in Table 2.1 for ready reference.*

### 0203 Application

- 1. Applicant, the shipowner or their representative, or the shipbuilder, should submit an application containing the information on the items listed below to the local office or Material and Equipment Department (EQD) prior to the survey onboard the ship.
  - (1) Cargoes for which a IMSBC Code fitness certificate is to be issued (For example, “Group A and C cargoes” or “Group A and C cargoes and (names of Group B cargoes)”)
  - (2) In case where a survey onboard the ship is required, expected date and place of the survey and local agent to be contacted
  - (3) A list of documents submitted together with the application and of those expected to be submitted later, if any.
- 2. In case where dangerous goods are included in the cargoes, the applicant should also apply for the issue of a certificate of compliance with the requirements of SOLAS74 Reg.II-2/54 (Reg.II-2/19 under SOLAS2000) as necessary.
- 3. In case where a conversion or an alteration affecting a class requirement including the case mentioned in -2 above is made, the applicant should also apply for a class survey.

### 0204 Submission of documents

- 1. In 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 (other than coal and brown coal (lignite) briquettes) and/or Table 2.5 (coal and brown coal (lignite) briquettes). For the specific construction and equipment of existing ships, if the ship’s compliance with the requirements, in the opinion of the surveyor, is capable of being checked by only the survey on board, submission of documents and document examination may be omitted.

- 2. In case where the certification is requested for the carriage of Group A cargoes without appropriate restrictions on their moisture contents, the applicant should submit relevant structural drawings, stability calculations and other documents considered necessary by ClassNK.

#### **0205 Document examination, survey and issue of certificate**

- 1. Certification for cargoes other than Group B cargoes
  - (1) For certification for the carriage of other cargoes than Group B cargoes, either document examination or survey onboard the ship is not required in principle. The local office should issue a certificate and checklist (if any).
    - (a) In case where any Group A cargo is intended to be carried without appropriate restrictions on its moisture content, EQD should be contacted as examination of drawings of subdivision is required.
    - (b) In case where the ship is less than 100 meters in length, the local office should check that an appropriate loading manual containing information on allowable nominal specific gravity of cargo for each hold and longitudinal strength of the ship is provided onboard the ship. In this case, "approved" in the condition 1 given in the certificate form should be deleted.
  - (2) The local office should forward a copy of the certificate and checklist (if any) to CLD.
- 2. For certification for the carriage of cargoes including Group B cargoes (except where Group B cargo is only coal and/or brown coal (lignite) briquettes), (1) and (2) below should be followed.
  - (1) As shown in Table 2.4, the head office (Hull Department, Machinery Department and/or EQD) or the local office should examine or check the documents. EQD should inform the applicant and the local office of the results of examination, and the local office of the time required for examination, if carried out by the head office.
  - (2) The local office should:
    - (a) based on the above (1) results of examination and the those of examination into the documents which should be submitted to the local office according to Table 2.4, carry out a survey on board using Table 2.2 as checklist;
    - (b) finalize and issue a certificate and checklist. The certificate including Attachment 1 and Attachment 2 should be issued with the specific paper "Form 130". The checklist should not be attached to the certificate but kept on board for the periodical survey; and
    - (c) forward a copy of the certificate and checklist to CLD.
- 3. For certification for the carriage of cargoes including only coal and/or brown coal (lignite) briquettes as Group B cargo, (1) through (3) below should be followed.
  - (1) Document examination on the head office is not required. The local office should prepare a certificate and checklist.
  - (2) Based on the results of examination into the documents listed in Table 2.5, the local office should carry out a survey on board using Table 2.3 as checklist and issue a certificate. The checklist should not be attached to the certificate but kept on board for the periodical survey.
  - (3) A copy of the certificate and checklist should be forwarded to CLD.

#### **0206 Renewal and rewrite of the certificate**

- 1. Change to IMSBC Code fitness certificate from BC Code fitness certificate  
Document examination at the head office is not required. The head office or local office should, when requested, prepare IMSBC Code fitness certificate and checklist. A copy of the certificate and checklist (if any) should be forwarded to CLD.

- 2. Change to IMSBC Code fitness certificate at renewal of the BC Code fitness certificate  
Document examination at the head office is not required. The local office should prepare IMSBC Code fitness certificate and checklist. The survey on board should be carried out using the before-mentioned checklist, and certificate should be finalized and issued. The checklist should not be attached to the certificate but kept on board for the periodical survey. A copy of the certificate and checklist (if any) should be forwarded to CLD. (Refer to Note 6.1.)
- 3. Renewal of IMSBC Code fitness certificate  
Document examination at the head office is not required. The local office should carry out a survey using the checklist kept on board and, based on the results of the survey, prepare a certificate referring to Appendix 2.1 and issue the certificate with the specific paper "Form 130". A copy of the certificate should be forwarded to CLD. (Refer to Note 6.1.)
- 4. Rewrite of IMSBC Code fitness certificate due to flag change or change of ship's name  
Document examination at the head office is not required. The local office should carry out a survey using the checklist kept on board and, based on the results of the survey, prepare a certificate referring to Appendix 2.1 and issue the certificate with the specific paper "Form 130". (Refer to Note 6.1.) In case where the expiry date of new certificate is not changed from the previous one, the survey on board is not required. A copy of the certificate should be forwarded to CLD.

*Note 6.1: The period of validity of the certificate should be five years after the date of issue.*



**Table 2.1**  
**Requirements of construction and equipment for individual cargoes**  
**under the provisions of the IMSBC Code and SOLAS Reg.II-2/54.2 (Reg.II-2/19.3 on or after 2000 amendments)**

| a   | b         | c      | d     | e       | f               | g           | h    | i                   | j          | k  | l                    | m               | n                           | o               | p  | q                      | r              | s                   | t                    | u               | v                              |
|---|-----------|--------|-------|---------|-----------------|-------------|------|---------------------|------------|--|----------------------|-----------------|-----------------------------|-----------------|--|------------------------|----------------|---------------------|----------------------|-----------------|--------------------------------|
| MATERIALS   | 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 | 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 |                                |
| ALFALFA   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ALUMINA   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ALUMINA, CALCINED   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ALUMINA, SILICA   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ALUMINA SILICA, pellets   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ALUMINIUM FERROSILICON POWDER                                     | 4.3       | 1395   | B     | A, G    | Yes             | ML,Sa       | Yes  |                     |            | IICT2                                    |                      |                 |                             |                 | X  | X                      | X              | X                   | X                    | X               |                                |
| ALUMINIUM NITRATE   | 5.1       | 1438   | B     |         |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 | (Yes)                          |
| ALUMINIUM SILICON POWDER, UNCOATED                                | 4.3       | 1398   | B     | A, G    | Yes             | ML,Sa       | Yes  |                     |            | IICT2                                    |                      |                 |                             |                 | X  | X                      | X              | X                   | X                    | X               |                                |
| ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS | 4.3       | 3170   | B     | A, G    | Yes             | ML,Sa       | Yes  |                     |            | IICT2                                    |                      |                 |                             |                 | X  | X                      | X              | X                   | X                    | X               |                                |
| AMMONIUM NITRATE  | 5.1       | 1942   | B     | A       | Yes             |             | Yes  | Yes                 |            | IS                                       |                      | Yes             | X                           | X               | X  |                        | X <sup>9</sup> | X                   | X                    | X               | (Yes)                          |
| AMMONIUM NITRATE BASED FERTILIZER (Type A)                        | 5.1       | 2067   | B     | A       | Yes             |             | Yes  | Yes                 |            | IS                                       |                      | Yes             | X                           | X               | X  |                        | X <sup>9</sup> | X                   | X                    | X               | (Yes)                          |
| AMMONIUM NITRATE BASED FERTILIZER (Type B)                        | 9         | 2071   | B     | A       | Yes             |             | Yes  | Yes                 |            | IS                                       |                      | Yes             | X                           | X               | X  |                        | X <sup>9</sup> | X                   | X                    | X               | (Yes)                          |
| AMMONIUM NITRATE, BASED FERTILIZER (non-hazardous) <sup>8</sup>   |           |        | C     |         | Yes             |             | Yes  | Yes                 |            | IS                                       |                      | Yes             |                             |                 |  |                        |                |                     |                      |                 |                                |
| AMMONIUM SULPHATE   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| ANTIMONY ORE AND RESIDUE  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BARIUM NITRATE  | 5.1       | 1446   | B     |         |                 | Nm          | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 | (Yes)                          |
| BARYTES   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BAUXITE   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BIOSLUDGE   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BORAX, ANHYDROUS, crude or refined                                |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BORAX (PENTAHYDRATE CRUDE)  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| BROWN COAL BRIQUETTES   | MHB       |        | B     |         |                 |             |      |                     |            | See Table 2.3.                           |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| CALCIUM NITRATE   | 5.1       | 1454   | B     |         |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 | (Yes)                          |
| CALCIUM NITRATE FERTILIZER  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| CARBORUNDUM   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| CASTOR BEANS <sup>1</sup>   | 9         | 2969   | B     |         |                 | Nm          | Yes  | Yes                 |            |  | Yes                  |                 | X                           | X               |  |                        |                | X                   | X                    |                 | Yes                            |
| CEMENT  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| CEMENT CLINKERS   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |
| CEMENT COPPER   |           |        | A     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |

| a   | b         | c      | d       | e       | f               | g           | h    | i                   | j          | k  | l                    | m               | n                           | o               | p  | q                      | r             | s                   | t                    | u               | v                              |
|---|-----------|--------|---------|---------|-----------------|-------------|------|---------------------|------------|--|----------------------|-----------------|-----------------------------|-----------------|--|------------------------|---------------|---------------------|----------------------|-----------------|--------------------------------|
| MATERIALS   | 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 | 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 |                                |
| CHAMOTTE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| CHARCOAL  | MHB       |        | B       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes                            |
| CHOPPED RUBBER AND PLASTIC INSULATION   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes <sup>2</sup>               |
| CHROME PELLETS  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| CHROMITE ORE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| CLAY  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COAL  |           |        | A and B |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COAL SLURRY   |           |        | A       |         |                 | N           |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COARSE CHOPPED TYRES  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes <sup>2</sup>               |
| COKE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COKE BREEZE   |           |        | A       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COLEMANITE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COPPER CONCENTRATE  |           |        | A       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COPPER GRANULES   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COPPER MATTE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| COPRA (dry)   | 4.2       | 1363   | B       | A       | Yes             | Nm          |      |                     |            |  |                      |                 | X                           | X               |  |                        |               | X                   | X                    | X               | Yes                            |
| CRYOLITE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| DIAMMONIUM PHOSPHATE (D.A.P.)   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| DIRECT REDUCED IRON, (A)<br>Briquettes, hot-moulded                               | MHB       |        | B       | F       | Yes             | Nm,<br>Sp   |      |                     |            | IICT2                                    |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| DIRECT REDUCED IRON, (B)<br>Lumps, pellets, cold moulded briquettes <sup>3</sup>  | MHB       |        | B       | F       | Yes             |             |      |                     |            | IICT2                                    |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes                            |
| DIRECT REDUCED IRON, (C)<br>(By product fines) <sup>3</sup>                       | MHB       |        | B       | F       | Yes             |             | Yes  |                     |            | IICT2                                    |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes                            |
| DOLOMITE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FELSPAR LUMP  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROCHROME   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROCHROME, exothermic   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROMANGANESE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERRONICKEL   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROPHOSPHORUS (including briquettes)  | MHB       |        | B       |         |                 | M, Sa       | Yes  |                     |            | IICT1                                    |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROSILICON with 30% or more but less than 90% silicon<br>(including briquettes) | 4.3       | 1408   | B       | A, G    | Yes             | ML, Sa      | Yes  | Yes                 | F, N       | IICT1                                    |                      |                 |                             | X               | X  | X                      | X             | X                   | X                    | X               |                                |
| FERROSILICON 25% to 30% silicon, or 90% or more with silicon                      | MHB       |        | B       | G       | Yes             | ML, Sa      | Yes  |                     | F, N       | IICT1                                    |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |

| a   | b         | c      | d       | e       | f               | g           | h    | i                   | j          | k  | l                    | m               | n                           | o               | p  | q                      | r             | s                   | t                    | u               | v                              |
|---|-----------|--------|---------|---------|-----------------|-------------|------|---------------------|------------|--|----------------------|-----------------|-----------------------------|-----------------|--|------------------------|---------------|---------------------|----------------------|-----------------|--------------------------------|
| MATERIALS   | 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 | 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 |                                |
| (including briquettes)                                |           |        |         |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS | 4.2       | 2793   | B       | A       | Yes             |             | Yes  |                     |            |  |                      |                 | X                           | X               |  |                        |               | X                   | X                    | X               | Yes                            |
| FERTILIZERS WITHOUT NITRATES (non-hazardous)          |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FISH (IN BULK)  |           |        | A       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FISHMEAL (FISHSCRAP), STABILIZED                      | 9         | 2216   | B       |         |                 | Nm          | Yes  |                     |            |  |                      |                 | X                           | X               |  |                        |               | X                   | X                    |                 | Yes                            |
| FLUORSPAR   | MHB       |        | A and B |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| FLY ASH   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| GRANULATED SLAG                                       |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| GRANULATE TYPE RUBBER                                 |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes <sup>2</sup>               |
| GYPSUM  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| ILMENITE CLAY   |           |        | A       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| ILMENITE SAND   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| IRON ORE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| IRON ORE PELLETS                                      |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| IRON OXIDE, SPENT or IRON SPONGE, SPENT               | 4.2       | 1376   | B       | A       |                 | Nm          | Yes  | Yes                 |            | IIAT2                                    | Yes                  |                 | X                           | X               |  |                        |               | X                   | X                    | X               | Yes                            |
| IRONSTONE   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| LABRADORITE   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| LEAD NITRATE  | 5.1       | 1469   | B       |         |                 | N           | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |               | X                   | X                    |                 | (Yes)                          |
| LEAD ORE  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| LIME (UNSLAKED)                                       | MHB       |        | B       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| LIMESTONE   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| LINTED COTTON SEED                                    | MHB       |        | B       |         |                 |             | Yes  |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes                            |
| MAGNESIA (DEADBURNED)                                 |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| MAGNESIA (UNSLAKED)                                   | MHB       |        | B       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| MAGNESITE, natural                                    |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| MAGNESIUM NITRATE                                     | 5.1       | 1474   | B       |         |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |               | X                   | X                    |                 | (Yes)                          |
| MANGANESE ORE   |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| MARBLE CHIPS  |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| METAL SULPHIDE CONCENTRATES                           | MHB       |        | A and B |         |                 |             | Yes  |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 | Yes                            |
| Mineral Concentrates                                  |           |        | A       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| MONOAMMONIUM PHOSPHATE (M.A.P.)                       |           |        | C       |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| PEANUTS (in shell)                                    |           |        | C       | A       |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |
| PEAT MOSS   | MHB       |        | A and B |         |                 | Nm          |      |                     |            |  |                      |                 |                             |                 |  |                        |               |                     |                      |                 |                                |

| a  | b         | c      | d       | e              | f               | g           | h    | i                   | j          | k  | l                    | m               | n                           | o               | p  | q                      | r              | s                   | t                    | u               | v                              |       |
|--|-----------|--------|---------|----------------|-----------------|-------------|------|---------------------|------------|--|----------------------|-----------------|-----------------------------|-----------------|--|------------------------|----------------|---------------------|----------------------|-----------------|--------------------------------|-------|
| MATERIALS  | 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 | 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 |                                |       |
| PEBBLES (sea)  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PELLETS (concentrates)                                     |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PERLITE ROCK   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PETROLEUM COKE, calcined or uncalcined                     | MHB       |        | B       |                |                 |             | Yes  | Yes                 |            |  | Yes                  |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PHOSPHATE, defluorinated                                   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PHOSPHATE ROCK, calcined                                   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PHOSPHATE ROCK, uncalcined                                 |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PIG IRON   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PITCH PRILL  | MHB       |        | B       |                |                 | Nm          | Yes  | Yes                 |            |  | Yes                  |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| POTASH   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| POTASSIUM CHLORIDE   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| POTASSIUM NITRATE  | 5.1       | 1486   | B       |                |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 |                                | (Yes) |
| POTASSIUM SULPHATE   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PUMICE   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PYRITE (containing copper and iron)                        |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PYRITES, CALCINED (Calcined Pyrites)                       | MHB       |        | A and B |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| PYROPHYLLITE   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| QUARTZ   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| QUARTZITE  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-1)        | 7         | 2912   | B       |                |                 |             | Yes  | Yes                 |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-1) | 7         | 2913   | B       |                |                 |             | Yes  | Yes                 |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| RASORITE (ANHYDROUS)                                       |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| RUTILE SAND  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SALT   |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SALT CAKE  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SALT ROCK  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SAND   |           |        | C       | A <sup>4</sup> |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SAWDUST  | MHB       |        | B       |                |                 | Nm          |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                | Yes   |
| SCRAP METAL  |           |        | C       |                |                 | Nm          |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |
| SEED CAKE Type (a)   | 4.2       | 1386   | B       | A              |                 |             | Yes  |                     |            |  |                      |                 | X                           | X               |  |                        |                |                     | X                    | X               | X                              | Yes   |
| SEED CAKE Type (b)   | 4.2       | 1386   | B       | A <sup>5</sup> | Yes             | Nm, Sp      | Yes  |                     |            | IIAT3 <sup>5</sup>                       |                      |                 | X                           | X               | X <sup>5</sup>                           | X <sup>5</sup>         | X <sup>5</sup> | X                   | X                    | X               | Yes                            |       |
| SEED CAKE  | 4.2       | 2217   | B       | A              | Yes             | Nm, Sp      | Yes  |                     |            | IIAT3                                    |                      |                 | X                           | X               | X  | X                      | X              | X                   | X                    | X               | X                              | Yes   |
| SEED CAKE (non-hazardous)                                  |           |        | C       |                |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |       |

| a   | b         | c      | d     | e       | f               | g           | h    | i                   | j          | k  | l                    | m               | n                           | o               | p  | q                      | r              | s                   | t                    | u               | v                              |                  |
|---|-----------|--------|-------|---------|-----------------|-------------|------|---------------------|------------|--|----------------------|-----------------|-----------------------------|-----------------|--|------------------------|----------------|---------------------|----------------------|-----------------|--------------------------------|------------------|
| MATERIALS   | 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 | 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 |                                |                  |
| SILICOMANGANESE (low carbon) (with known hazard profile or known to evolve gases) (with silicon content of 25% or more) | MHB       |        | B     |         | Yes             | M, Sa       | Yes  |                     |            | IICT1                                    |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SODA ASH  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SODIUM NITRATE  | 5.1       | 1498   | B     |         |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 |                                | (Yes)            |
| SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE  | 5.1       | 1499   | B     |         |                 |             | Yes  | Yes                 |            |  | Yes                  | Yes             | X                           | X               |  |                        |                | X                   | X                    |                 |                                | (Yes)            |
| STAINLESS STEEL GRINDING DUST   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| STONE CHIPPINGS   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SUGAR   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SULPHATE OF POTASH AND MAGNESIUM  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SULPHUR (crushed lump and coarse grained) <sup>6</sup>  | 4.1       | 1350   | B     | A       | Yes             | Nm, Sp      | Yes  |                     |            | IIAT4                                    |                      |                 | X                           | X               | X  |                        | X <sup>9</sup> | X                   | X                    | X               |                                |                  |
| SULPHUR (formed, solid)   |           |        | C     |         |                 | Nm          |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SUPERPHOSPHATE  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| SUPERPHOSPHATE (triple, granular)   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| TACONITE PELLETS  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| TALC  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| TANKAGE   | MHB       |        | B     |         |                 |             | Yes  |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                | Yes              |
| TAPIOCA   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| UREA  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| VANADIUM ORE  | MHB       |        | B     |         |                 |             | Yes  |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| VERMICULITE   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| WHITE QUARTZ  |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |
| WOODCHIPS   | MHB       |        | B     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                | Yes <sup>7</sup> |
| WOOD PELLETS  | MHB       |        | B     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                | Yes              |
| WOOD PULP PELLETS   | MHB       |        | B     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                | Yes <sup>7</sup> |
| ZINC ASHES  | 4.3       | 1435   | B     | A       | Yes             | ML,Sa       | Yes  | Yes                 |            | IICT2                                    |                      |                 |                             |                 | X  | X                      | X              | X                   | X                    | X               | X                              |                  |
| ZIRCON SAND   |           |        | C     |         |                 |             |      |                     |            |  |                      |                 |                             |                 |  |                        |                |                     |                      |                 |                                |                  |

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

1. MATERIALS (column "a")  
Bulk Cargo Shipping Names are expressed in capital letters and identifies a 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 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 may liquefy if shipped at 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 liable to liquefy (Group A) nor to possess chemical hazards (Group B).
5. Stowage (column "e")
  - A : Bulkheads to the engine room are to be insulated to A-60 standard.
  - 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")  
Yes : "NO SMOKING" signs are to be posted on decks and in areas adjacent to cargo compartments.
7. Ventilation (column "g")
  - N : Natural ventilation system is to be provided for cargo holds.
  - Nm : Natural or mechanical ventilation system is to be provided for cargo holds.
  - M : Mechanical ventilation system is to be provided for cargo holds.
  - ML : 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.
  - Sa : 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")  
Yes : Two self contained breathing apparatuses with 200% spare cylinders are to be additionally provided.
9. Protective clothing resistant to chemical attack (column "i")  
Yes : Four sets of protective clothing which consists of a pair of gloves, boots, a protective clothing and helmet with goggles are to be additionally provided.
10. Bilge line (column "j")
  - F : In case where bilge lines are led to machinery space, bilge line is to be isolated either by fitting a blank flange or by 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 are 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 are considered as suitable explosion protected type electrical equipment.

- IAT3: Electrical equipment having an explosion protection grade of IAT3 or upwards are considered as suitable explosion protected type electrical equipment.
- IAT4: Electrical equipment having an explosion protection grade of IAT4 or upwards are considered as suitable explosion protected type electrical equipment.
- IICT1: Electrical equipment having an explosion protection grade of IICT1 or upwards are considered as suitable explosion protected type electrical equipment.
- IICT2: Electrical equipment having an explosion protection grade of IICT2 or upwards are considered as suitable explosion protected type electrical equipment.
- IS: Intrinsically safe type electrical equipment are considered as suitable explosion protected type electrical equipment.

12. Dual purpose nozzles (column "l")

Yes : Nozzles provided with fire hoses are to be of dual-purpose type (i.e., spray/jet type).

13. 4 jets of water (column "m")

Yes : 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. Requirements of SOLAS Reg.II-2/54.2 (Reg.II-2/19.3 on or after 2000 amendments) (column "n" ~ "u")

X : Applicable.

15. FFEA (SOLAS Reg.II-2/10.7.1.3) (column "v")

Yes : Fixed CO2 fire extinguishing system for cargo holds are 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 of 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. For the detailed requirements, the relevant part of the SOLAS should be referred to.
- Blank columns mean "Not applicable".

Notes :

1. CASTER MEAL, CASTER POMACE and CASTER 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 vessel may be exempted from the requirements of FFEA.
3. Consideration shall be given to providing the vessel 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. Only applicable to Industrial sand coated with resin.
5. Only applicable to Seedcake containing solvent extractions only.
6. Fine grained sulphur (flowers of sulphur) shall not be transported in bulk.
7. With moisture content of 15% or more, the vessel may be exempted from the requirements of FFEA.
8. To be stowed out of direct contact with a metal engine room boundary.
9. Only suitable wire mesh guards are required.

**Table 2.2**

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

| Column of Table 2.1 | Requirements   | Result                   |
|---------------------|--|--------------------------|
| e                   | Stowage:<br><input type="checkbox"/> Bulkheads to the engine room are to be insulated to A-60 standard.<br><input type="checkbox"/> Boundaries of components are to be resistant to fire and passage of water.<br><input type="checkbox"/> Bulkheads to the engine room are to be of gastight.   | <input type="checkbox"/> |
| f                   | NO SMOKING sign:<br><input type="checkbox"/> "NO SMOKING" signs are to be posted on decks and in areas adjacent to cargo compartment.  | <input type="checkbox"/> |
| g                   | Ventilation:<br><input type="checkbox"/> Natural ventilation systems are to be provided for cargo holds.<br><input type="checkbox"/> Natural or mechanical ventilation systems are to be provided for cargo holds.<br><input type="checkbox"/> Mechanical ventilation systems are to be provided for cargo holds.<br><input type="checkbox"/> At least two mechanical ventilation fans are to be provided for cargo holds. The total ventilation are 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.<br><input type="checkbox"/> Ventilation fans are to be safe for use in a flammable atmosphere.<br><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:<br><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:<br><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:<br><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.<br><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:<br><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.<br>( <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"/> Intrinsically safe type)  | <input type="checkbox"/> |
| l                   | Dual purpose nozzles<br><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<br><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"/> |

- Note: 1. The requirements checked are applied to the vessel.  
 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" or "--" should be entered in the columns.

Ship's name :  
 Class number :  
 Date :

Signature: \_\_\_\_\_

**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 IIAT4 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. Electrical measuring device is to be of safe type having an explosion protection grade of IIAT4 or upwards.<br>Methane<br>Oxygen<br>Carbon monoxide<br>pH value<br>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.<br>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, passage ways, 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" or "--" should be entered in the columns.

Ship's name :

Class number :

Date :

Signature: \_\_\_\_\_

**Table 2.4**

**Documents/information to be submitted**

| Required items<br>(1) Column of Table 2.2<br>(2) Regulation of SOLAS II-2/54 (II-2/19) |   | Documents/information to be submitted<br>The meanings of "H" and "L" are specified under this table. |   |
|--|---|--|---|
| (1)  | (2)                                       |  |   |
| e  | 2.8<br>(3.8)                              | "A-60" class insulation of bulkheads between the cargo space and engine room                         | H<br>Drawings of fire protection construction Type and manufacture of the material  |
| f  | --  | "NO SMOKING" signs   | L<br>Number and locations of the signs  |
| g  | --  | Natural ventilation.   | H<br>Drawings of the system   |
|  | 2.4.3<br>(3.4.3)                          | Natural or mechanical ventilation.   |   |
|  | --  | Mechanical ventilation   | H<br>Drawings of the system<br>Calculations of the air changes  |
|  | 2.4.1<br>(3.4.1)                          | Mechanical ventilation (total ventilation at least six air changes per hour)                         |   |
|  | 2.4.2<br>(3.4.2)                          | Non-sparking fans  |   |
|  | Spark-arresting screens (wire mesh guard) | L<br>Specifications  |   |
| h  | 2.6.2<br>(3.6.2)                          | Self-contained breathing apparatus   | L<br>Type, manufacturer and specifications  |
| i  | 2.6.1<br>(3.6.1)                          | Protective clothing resistant to chemicals   |   |
| j  | --  | Stop valves and blank flanges on the bilge lines on machinery space side                             | H<br>Drawing of bilge lines   |
| k  | 2.2<br>(3.2)                              | Electrical equipment to be of safe type.   | H<br>Arrangement and wiring diagram of electrical equipment fitted in the space including grade of each equipment, such as IIAT4. |
| l  | -   | Jet/spray dual purpose type nozzle   | L<br>Type, manufacturer and specifications  |
| m  | 2.1.2<br>(3.1.2)                          | Capacity of fire pumps to supply four nozzles  | H<br>Fire main piping diagram with arrangement of hydrant and pump capacity.  |

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/BROWN COAL BRIQUETTES**

| Requirements on Table 2.3   | Documents/information to be submitted<br>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.<br>Methane<br>Oxygen<br>Carbon monoxide<br>pH value<br>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<br>Arrangement of air holes  |
| Natural or mechanical ventilation should be provided for enclosed working spaces, such as store rooms, carpenter's shops, passage ways, tunnels. Mechanical ventilation, if used, should be of safe type for use in 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.

## Appendix 2.1 - Form of certificate

### Certificate of Compliance with the International Maritime Solid Bulk Cargoes (IMSBC) Code

No. ( *certificate number* )

Name of ship :  
Distinctive number or letters :  
Port of registry :  
Gross tonnage :  
Class number :  
IMO number :

This is to certify that the ship is suitable for the carriage in bulk of all cargoes listed in Attachment 1 in the cargo holds stated in accordance with the provisions of the International Maritime Solid Bulk Cargoes Code provided that:

1. the relevant construction and equipment are maintained in good order;
2. any cargo should be loaded and distributed in pursuant to information provided in the **approved\*** loading manual and the stability information booklet provided onboard the ship;
3. the nominal specific gravity of any cargo should not exceed the allowable value indicated in the loading manual; and
4. the remaining operational requirements stipulated in the Code, including those stated in General Note on Attachment 2, should be ensured.

This certificate is valid until ( *date of five years after the date of issue* ).  
Completion date of the survey on which this certificate is based : ( *survey date* )  
Issued at ( *place* ) on ( *date* )  
**on behalf of (the name of the flag government)\*.**

NIPPON KAIJI KYOKAI

\_\_\_\_\_  
( *name* ), Surveyor

\_\_\_\_\_  
\* *Delete if not appropriate.*



Attachment to the certificate No. ( *certificate number* )

### **General Note**

- When it has been required by the Code, persons, who may be exposed to the dust of the cargo, shall wear protective clothing, goggles or other equivalent dust eye-protection and dust filter masks, as necessary.
- When carrying a solid bulk cargo which is liable to emit a toxic or flammable gas, and/or cause oxygen depletion in the cargo space, the appropriate instrument(s) for measuring the concentration of gas and oxygen in the cargo space shall be provided.

### **Note**

|     |   |
|-----|---|
| 1.  | Except AMMONIUM NITRATE BASED FERTILIZER (non-hazardous), <b>COAL SLURRY*</b> , <b>SCRAP METAL*</b> and <b>SULPHUR (formed, solid)*</b> .   |
| 2.  | CHOPPED RUBBER AND PLASTIC INSULATION, COARSE CHOPPED TYRES and GRANULATE TYPE RUBBER are not permitted to be loaded when the planned interval between the commencement of loading and the completion of discharge of the cargoes exceeds 5 days.                       |
| 3.  | AMMONIUM NITRATE BASED FERTILIZER (non-hazardous) is to be stowed out of direct contact with a metal engine room boundary.  |
| 4.  | PEANUTS (in shell) and Industrial sand coated with resin are to be stowed at least 3m horizontally away from engine room boundaries.  |
| 5.  | To be stowed at least 3m horizontally away from engine room boundaries.   |
| 6.  | CASTER MEAL, CASTER POMACE and CASTER FLAKE shall not be carried in bulk.   |
| 7.  | Consideration shall be given to providing the vessel 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. |
| 8.  | Except Seedcake containing solvent extractions.   |
| 9.  | Fine grained sulphur (flowers of sulphur) shall not be transported in bulk.   |
| 10. | With moisture content of 15% or more.   |

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\* *Delete if not appropriate.*