CCS Circular

China Classification Society
(2011) Circ. No.95 Total No.159
Dec. 30, 2011 (Total pages: 3)

To: *relevant business departments of CCS Headquarters, branches (offices), plan approval centers, ship owners/managers, design units and shipyards*

Notice on IACS UI SC 89 and MSC. 318(89)'s Interpretation and Amendment to IMSBC Code

On February 2011, IACS issued UI SC 89 (edition3), which will come into effect on 1 January 2012. In the UI SC 89, 7 types of cargoes are listed with the requirements of continuous ventilation, among which FERROPHOSPHORUS (including briquettes) in GROUP B, CLASS MHB are at the first time clearly requested to meet the requirement of continuous ventilation. For ships carrying this kind of cargoes, the following requirements are to be met since 1 January 2012:

For cargo space holding this kind of cargoes, the height of ventilators are to be in accordance with ICLL/19.3 relating to ventilators not to be fitted with closing arrangements. In other words, the coamings of ventilators in position 1 are to extend to more than 4.5 m above the deck, and in position 2 the coamings are to extend to more than 2.3 m above the deck.

CCS will uniformly add memo to applicable ships that "check whether the ship meets the requirement of IACS UI SC 89 rev.3 combined with the latest IMSBC code survey regardless of survey scope". In order to avoid affecting normal services, shipowners are requested to carry out self-checking at the earliest convenience, and if not, arrange rectification in time, apply to CCS for IMSBC additional survey and get surveyor's confirmation.

On 20 May 2011, IMO adopted amendments to the IMSBC Code which will become mandatory since 1 January 2013. All contracting governments to the code may voluntarily comply with the amendment since 1 January 2012. CCS will uniformly add statutory memoranda to applicable ships, noting that "the ship will comply with IMSBC code amended by Res.MSC.318(89) no later than 1 January 2013. To ensure the ship's normal services, shipowner is requested to apply to CCS for IMSBC interim survey so to verify the ship complies with Res.MSC.318(89)".

The abstract of the amendment of IMSBC code by Res.MSC.318(89) are as followed:

AMMONIUM NITRATE

UN1942 GROUP B CLASS 5.1

Newly add the fitting requirements for cargo temperature measuring instrument.

AMMONIUM NITRATE BASED FERTILIZER

UN2067, GROUP B, CLASS 5.1

For “STOWAGE & SEGREGATION”, the text is changed into “Not to be stowed immediately adjacent to any tank, double bottom or pipe containing fuel oil heated to more than 50°C.”

AMMONIUM NITRATE BASED FERTILIZER (non-hazardous)

GROUP C

For “STOWAGE & SEGREGATION”, the text is changed into “Not to be stowed immediately adjacent to any tank, double bottom or pipe containing fuel oil heated to

more than 50°C.”

It is mandatory that “fertilizers of this type should be stowed out of direct contact with a metal engine-room boundary.”

FERROPHOSPHORUS (including briquettes)

GROUP B, CLASS MHB

For “carriage”, the text is changed into “"For quantitative measurement of flammable and toxic gases such as Phosphine, which may be evolved from this cargo in accordance with the cargo information, suitable detectors for each gas or combination of gases shall be on board while this cargo is carried. The detectors shall be of certified safe type for use in explosive atmosphere. The concentrations of these gases in the cargo spaces carrying this cargo shall be measured regularly, during the voyage, and the results of the measurements shall be recorded and kept on board.”

Newly add 6 bulk cargoes：

DISTILLERS DRIED GRAINS WITH SOLUBLES, GROUP C

FERROUS SULPHATE HEPTAHYDRATE, GROUP C

FLY ASH, WET, GROUP A

GRANULAR FERROUS SULPHATE, GROUP C

MAGNESIUM SULPHATE FERTILIZERS, GROUP C

WOOD PRODUCTS-GENERAL, GROUP B, CLASS MHB

Measurement instruments for Oxygen concentration are required for WOOD

PRODUCTS-General. According to MSC/Circ.1395, WOOD PRODUCTS-GENERAL are cargoes processing less potential of combustion, therefore, a fixed gas fire-extinguishing system in cargo hold may be exempted.

Change the name of 1 bulk cargo：

“FLY ASH, CLASS C”is replaced by“FLY ASH, DRY,CLASS C”

Relevant Requirements stay the same.

Delete 1 bulk cargo：

WOOD PULP PELLETS, GROUP B, CLASS MHB

Annex：

1. IACS UI SC 89 Rev.3
2. MSC.318(89)
3. MSC.318(89) Chinese translation

This Circular is published on CCS website (www.ccs.org.cn) and is to be forwarded by CCS branches to relevant shipyards, designers and shipping companies in relevance to their business area.

Please contact Classed Ship in Service Dept. of the Headquarters in case of any unclarity during the implementation of this Circular.

SC 89 Ventilation of Cargo Spaces

(Rev.1 1996) (Rev.2 Nov 2005) (Rev.3 Feb 2011)

SOLAS Reg. II-2/19.3.4

3.4 Ventilation arrangement

3.4.1 Adequate power ventilation shall be provided in enclosed cargo spaces. The arrangement shall be such as to provide for at least six air changes per hour in the cargo space based on an empty cargo space and for removal of vapours from the upper or lower parts of the cargo space, as appropriate.
3.4.2 The fans shall be such as to avoid the possibility of ignition of flammable gas air mixtures. Suitable wire mesh guards shall be fitted over inlet and outlet ventilation openings.
3.4.3 Natural ventilation shall be provided in enclosed cargo spaces intended for the carriage of solid dangerous goods in bulk, where there is no provision for mechanical ventilation.

IMSBC Code Reg. 1.7.29.1

1.7.29 Ventilation means exchange of air from outside to inside a cargo space.
*.1 Continuous Ventilation means ventilation that is operating at all times.**

IMSBC Code Reg. 3.5.4

3.5.4 Ventilation openings shall be provided in holds intended for the carriage of cargoes that require continuous ventilation. Such openings shall comply with the requirements of the Load Line Convention as amended for openings not fitted with means of closure.

* The requirements for continuous ventilation apply to the following cargoes:

ALUMINIUM FERROSILICON POWDER UN 1395

ALUMINIUM SILICON POWDER, UNCOATED UN 1398

ALUMINIUM SMELTING BY-PRODUCTS or ALUMINIUM REMELTING BY-PRODUCTS UN 3170

FERROPHOSPHORUS (including BRIQUETTES)

FERROSILICON (25% ≤ Silicon ≤ 30% or ≥ 90% Silicon)

FERROSILICON UN 1408 (30% ≤ Silicon < 90%)

ZINC ASHES UN 1435

Note:

1. Rev.3 of this UI shall be uniformly implemented by IACS Societies on or after 1 January 2012.

SC 89 (cont)

Interpretation

If adjacent spaces are not separated from cargo spaces by gastight bulkheads or decks then they are considered as part of the enclosed cargo space and the ventilation requirements shall apply to the adjacent space as for the enclosed cargo space itself.

Where the IMSBC Code requires:

- 2 fans per hold, a common ventilation system with 2 fans connected is acceptable.

- continuous ventilation, this does not prohibit ventilators from being fitted with a means of closure as required for fire protection purposes under SOLAS II-2/5.2.1.1 provided the minimum height to the ventilator opening is to be in accordance with ICLL/19.3 (4.5m for Position 1 and 2.3m for Position 2).

End of Document

ANNEX 2

RESOLUTION MSC.318(89)
(adopted on 20 May 2011)

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL MARITIME SOLID BULK CARGOES (IMSBC) CODE

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

NOTING resolution MSC.268(85) by which it adopted the International Maritime Solid Bulk Cargoes Code (hereinafter referred to as "the IMSBC Code"), which has become mandatory under chapters VI and VII of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as "the Convention"),

NOTING ALSO article VIII(b) and regulation VI/1-1.1 of the Convention concerning the amendment procedure for amending the IMSBC Code,

HAVING CONSIDERED, at its eighty-ninth session, amendments to the IMSBC Code, proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the IMSBC Code, the text of which is set out in the Annex to the present resolution;

2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 July 2012, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3. INVITES Contracting Governments to the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2013 upon their acceptance in accordance with paragraph 2 above;

4. AGREES that Contracting Governments to the Convention may apply the aforementioned amendments in whole or in part on a voluntary basis as from 1 January 2012;

5. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;

6. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENT 01-11 TO THE INTERNATIONAL MARITIME SOLID BULK CARGOES (IMSBC) CODE

APPENDIX 1

INDIVIDUAL SCHEDULES OF SOLID BULK CARGOES

ALUMINIUM FERROSILICON POWDER, UN 1395

PRECAUTIONS

1 In the second sentence, the words "competent Authority" are replaced by the word "Administration".

ALUMINIUM NITRATE, UN 1438

PRECAUTIONS

2 At the end of the paragraph, the following sentence is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amounts of water may be necessary."

ALUMINIUM SILICON POWDER, UNCOATED UN 1398

PRECAUTIONS

3 In the second sentence, the words "competent Authority" are replaced by the word "Administration".

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

DESCRIPTION

4 The words "Supporter of combustion. Hygroscopic." are deleted.

5 A new note after Description is added, as follows:

"***Note*:**

This schedule should only be used for substances that do not exhibit properties of class 1 when tested in accordance to Test Series 1 and 2 of class 1 (see UN Manual of Tests and Criteria, part 1).".

HAZARD

6 At the beginning of the first paragraph, the words "Oxidizer, supports combustion." are added.

7 In the existing first sentence, the words "these materials" are replaced by the words "this cargo".

STOWAGE & SEGREGATION

8 In the first sentence, the word "should" is replaced by the word "shall".

LOADING

9 In the first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

During loading, the following provisions shall be complied with:

10 The first bullet related to smoking is deleted.

PRECAUTIONS

11 In the first paragraph, the existing third sentence is replaced by the following text:

> "The master and officers are to note that the ship's fixed gas fire-extinguishing installation will be ineffective on the fire involving this cargo and that applying copious amount of water may be necessary."

12 In the first paragraph, the last sentence is deleted.

CARRIAGE

13 A new second sentence is added, as follows:

> "The temperature of this cargo shall be monitored and recorded daily during the voyage to detect decomposition, which may result in heating and oxygen depletion."

DISCHARGE

14 The second sentence is replaced by the following text:

> "Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

EMERGENCY PROCEDURES

15 In the provisions regarding Fire in cargo space containing this material, the word "installation" is inserted after the words "Ship's fixed gas fire-extinguishing".

16 In the provisions regarding Fire in cargo space containing this material, the words "Use copious quantities of water" are replaced by the words "Use copious amount of water and isolate the source of heat, if any".

AMMONIUM NITRATE BASED FERTILIZER UN 2067

DESCRIPTION

17 In subparagraph .2, after the word "dolomite", the words "and/or mineral calcium sulphate" are inserted.

NOTES:

18 In note 3, the word "explosive" is deleted.

STOWAGE & SEGREGATION

19 In the fourth sentence, the words "any tank or double bottom" are replaced by the words "any tank, double bottom or pipe".

LOADING

20 In the first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

21 After the first sentence, the following sentence is added:

> "The master and officers are to note that the ship's fixed gas fire-extinguishing installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

CARRIAGE

22 In the second sentence, the words "resulting in spontaneous" are replaced by the words "which may result in".

DISCHARGE

23 The first sentence is replaced by the following text:

> "Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

24 After the second new sentence, the following text is added:

> "Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

25 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

26 In the provisions regarding Fire in cargo space containing this material, in the third sentence, after the word "water", the words "and isolate the source of heat, if any" are inserted.

AMMONIUM NITRATE BASED FERTILIZER UN 2071

DESCRIPTION

27 In the second paragraph, a footnote associated with "(see UN Manual of Tests and Criteria, part III, subsection 38.2)" is inserted, as follows:

"* See also section 5 of Appendix 2 to this Code."

HAZARD

28 In the first paragraph, the word "mixtures" is replaced by the word "cargoes" in the first sentence, and in the last sentence the words "mixtures is subject to the" are replaced by the words "cargoes are subject to an".

STOWAGE & SEGREGATION

29 In the last sentence, after the word "standard,", the words "this cargo shall be stowed" are inserted.

LOADING

30 In the first paragraph, first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

During loading, the following provisions shall be complied with:

31 A new bullet is added, as follows:

"• As far as reasonably practicable, combustible securing and protecting materials shall not be used. When wooden dunnage is necessary, only a minimum amount shall be used."

PRECAUTIONS

32 After the first sentence, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

33 The first sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed."

34 After the second new sentence, the following sentence is added:

"Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

35 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

AMMONIUM NITRATE BASED FERTILIZER (non-hazardous)

DESCRIPTION

36 In subparagraph .2, after the word "dolomite", the words "and/or mineral calcium sulphate" are inserted.

37 In subparagraph .4, a footnote associated with "(see UN Manual of Tests and Criteria, part III, subsection 38.2)" is inserted, as follows:

"* See also section 5 of Appendix 2 to this Code."

HAZARD

38 The entire text under this heading is replaced by the following text:

"This cargo is non combustible or has a low fire risk. Even though this cargo is classified as non-hazardous, some of the properties of the ammonium nitrate based fertilizer classified in class 9 under UN 2071 are exhibited when heated strongly. When this cargo is heated strongly, it will decompose and give off toxic gases with the risk of toxic fumes in the cargo space, adjacent spaces and on deck. Monitoring of the cargo temperature may give an early indication of decomposition. Fertilizer dust might be irritating to skin and mucous membranes. It is hygroscopic cargo and will cake if wet."

STOWAGE & SEGREGATION

39 In the third sentence, the words "any tank or double bottom" are replaced by the words "any tank, double bottom or pipe".

40 In the fourth sentence, after the words "this type", the word "should" is replaced by the word "shall".

41 In the fifth sentence, the word "barrier" is replaced by the word "arrangement".

42 In the last paragraph, the last sentence is replaced by the following text:

"This requirement need not apply if the bulkhead is class A-60 or to short international voyages."

LOADING

43 In the first paragraph, first sentence, the references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

44 After the first sentence, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

CARRIAGE

45 The second sentence is deleted.

DISCHARGE

46 The first sentence is replaced by the following text:

"Bunkering of fuel oil shall not be allowed. Pumping of fuel oil in spaces adjacent to the cargo spaces for this cargo, other than the engine-room, shall not be allowed. Ammonium nitrate based fertilizers are hygroscopic and may cake in overhangs, impairing safety during discharge."

EMERGENCY PROCEDURES

47 In the provisions regarding Fire in cargo space containing this material, the words "Ship's fixed fire-fighting installation" are replaced by the words "Ship's fixed gas fire-extinguishing installation".

48 In the provisions regarding Fire in cargo space containing this material, in the third sentence, after the word "water", the words "and isolate the source of heat, if any" are inserted.

AMMONIUM SULPHATE

HAZARD

49 At the end of the paragraph, the following text is added:

"This cargo is hygroscopic and will cake if wet."

LOADING

50 In the last sentence, the references " 4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

51 At the beginning of the paragraph, the following text is added:

"Ammonium sulphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

BARIUM NITRATE, UN 1446

PRECAUTIONS

52 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

BORAX (PENTAHYDRATE CRUDE)

DISCHARGE

53 At the beginning of the paragraph, the following text is added:

"Borax (pentahydrate crude) is hygroscopic and may cake in overhangs, impairing safety during discharge."

BORAX, ANHYDROUS (crude or refined)

LOADING

54 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

55 At the beginning of the paragraph, the following text is added:

"Borax anhydrous (crude or refined) is hygroscopic and may cake in overhangs, impairing safety during discharge."

BROWN COAL BRIQUETTES

HAZARD

56 The text is replaced by the following text:

"This cargo is easily ignited, is liable to heat spontaneously, may ignite spontaneously and may deplete oxygen in the cargo space."

APPENDIX

57 In paragraph 1.1, in the section for Precautions, the words "and opening cargo space enclosures" are deleted.

CALCIUM NITRATE, UN 1454

PRECAUTIONS

58 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

59 At the beginning of the paragraph, the following text is added:

"Calcium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

CALCIUM NITRATE FERTILIZER

LOADING

60 The references "4 and 5" are replaced by the references "4, 5 and 6".

CLAY

CLEAN-UP

61 The text is replaced by "After discharge of this cargo, particular attention shall be given to the bilge wells of the cargo spaces".

DIAMMONIUM PHOSPHATE (D.A.P.)

LOADING

62 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

63 At the beginning of the paragraph, the following text is added:

"Diammonium phosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

DISTILLERS DRIED GRAINS WITH SOLUBLES

64 After existing schedule on DIRECT REDUCED IRON (C), the new schedule on DISTILLERS DRIED GRAINS WITH SOLUBLES is added, as follows:

"**DISTILLERS DRIED GRAINS WITH SOLUBLES**

DESCRIPTION
A dried blend of coarse grains and condensed distillers solubles that remain after the fermentation of the starch fraction of corn with yeasts and enzymes to produce ethanol and carbon dioxide. Yellowish brown in colour with a cooked corn odour. Moisture content not more than 13% and oil content not more than 11%. This schedule is not applicable to wet distillers grain (WDG) and distillers dried grain (DDG), which are not transported in bulk.

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
Not applicable	450 to 520	1.92 to 2.22
SIZE	**CLASS**	**GROUP**
Not applicable	Not applicable	C

HAZARD
No special hazards.
This cargo is non-combustible or has a low fire risk.

STOWAGE & SEGREGATION
No special requirements.

HOLD CLEANLINESS
Clean and dry as relevant to the hazards of the cargo.

WEATHER PRECAUTIONS
This cargo shall be kept as dry as practicable. This cargo shall not be handled during precipitation. During handling of this cargo all non-working hatches of the cargo spaces into which this cargo is loaded shall be closed.

LOADING
Load in open unconfined areas. Trim in accordance with the relevant provision required under sections 4 and 5 of the Code.

PRECAUTIONS
No special requirements.

VENTILATION
No special requirements.

CARRIAGE
Hatches of the cargo spaces carrying this cargo shall be weathertight to prevent the ingress of water.

DISCHARGE
If this cargo has hardened, it shall be trimmed to avoid the formation of overhanging faces, as necessary.

CLEAN-UP
No special requirements."

FERROPHOSPHORUS (including briquettes)

CARRIAGE

65 The text is replaced by the following text:

"For quantitative measurement of flammable and toxic gases such as Phosphine, which may be evolved from this cargo in accordance with the cargo information, suitable detectors for each gas or combination of gases shall be on board while this cargo is carried. The detectors shall be of certified safe type for use in explosive atmosphere. The concentrations of these gases in the cargo spaces carrying this cargo shall be measured regularly, during the voyage, and the results of the measurements shall be recorded and kept on board."

FERROSILICON UN 1408

APPENDIX – DETAILED REQUIREMENTS

66 In the first sentence, the words "competent Authority" are replaced by the word "Administration", in all cases.

FERROSILICON with 25% to 30% silicon, or 90% or more silicon

LOADING

67 The second sentence is replaced by the following text:

"As the density of the cargo is extremely high, the tanktop may be overstressed unless the cargo is evenly spread across the tanktop for homogenous weight distribution. Due consideration shall be paid to ensure that the tanktop is not overstressed during voyage and during loading by a pile of the cargo. Refer to the appendix to this schedule."

APPENDIX – DETAILED REQUIREMENTS

68 In the first and second sentences, the words "competent Authority" are replaced by the word "Administration".

FERROUS SULPHATE HEPTAHYDRATE

69 After existing schedule on FERROUS METAL BORINGS, SHAVINGS, TURNINGS or CUTTINGS UN 2793, a new schedule on FERROUS SULPHATE HEPTAHYDRATE is added, as follows:

"**FERROUS SULPHATE HEPTAHYDRATE**

DESCRIPTION
Pale green crystals. Highly soluble in water. Product commonly referred to as "Copperas".

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
Not applicable	750 to 1250	0.8 to 1.3
SIZE	**CLASS**	**GROUP**
Crystals	Not applicable	C

HAZARD
Harmful if swallowed. Causes serious eye irritation. Causes skin irritation.
This cargo is non-combustible or has a low fire-risk.
Tends to caking when damp.
This cargo is highly soluble and will be acidic when wet.
Excessive levels spilt into water systems may result in oxygen depletion from the water.

STOWAGE & SEGREGATION
"Separated from" Oxidizing substances.

HOLD CLEANLINESS
Clean and dry as relevant to the hazards of the cargo.

WEATHER PRECAUTIONS
This cargo shall be kept as dry as practicable. It shall not be handled during precipitation. During handling of this cargo all non-working hatches of the cargo spaces into which this cargo is loaded shall be closed.

LOADING
Trim in accordance with the relevant provision required under sections 4 and 5 of the Code.

PRECAUTIONS
Avoid contact with eyes and skin. Persons who may be in contact with the product shall wear protective clothing, gloves and eye protection. Typically, this is a non-dusty product, however, in particularly dry conditions, if dust is generated a filter mask shall also be worn. Bilge wells shall be clean, dry and covered, as appropriate, to prevent ingress of the cargo.

VENTILATION
The cargo spaces carrying this cargo shall not be ventilated during voyage.

CARRIAGE
Hatches of the cargo spaces shall be weathertight to prevent water ingress.

DISCHARGE
If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary.

CLEAN-UP
After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out."

FERTILIZERS WITHOUT NITRATES (non-hazardous)

DISCHARGE

70 At the beginning of the paragraph, the following text is added:

"Fertilizers without nitrates are hygroscopic and may cake in overhangs, impairing safety during discharge."

FLY ASH

71 In the title of the schedule of FLY ASH, the word ", DRY" is added.

FLY ASH, WET

72 After existing schedule on FLY ASH, a new schedule on FLY ASH, WET is added, as follows:

"**FLY ASH, WET**

DESCRIPTION
Greyish powder. This cargo is a mixture of the light, finely divided dusty fine powder residue from coal and oil fired power stations and water (not less than 10% of water). Ammonia odour.

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
Not applicable	900 to 1300	0.77 – 1.11
SIZE	**CLASS**	**GROUP**
Under 1 mm	Not applicable	A

HAZARD
Wet fly ash is liable to flow if it has sufficiently high moisture content.
It is non-combustible or has a low fire-risk.

STOWAGE & SEGREGATION
"Separated from" foodstuffs.

HOLD CLEANLINESS
No special requirements.

WEATHER PRECAUTIONS
When a cargo is carried in a ship other than specially constructed or fitted cargo ship complying with the requirements in subsection 7.3.2 of this Code, the following provisions shall be complied with:

.1 The moisture content of the cargo shall be kept less than its TML during voyage.

.2 Unless expressly provided otherwise in this individual schedule, the cargo shall not be handled during precipitation.

.3 Unless expressly provided otherwise in this individual schedule, during handling of the cargo, all non-working hatches of the cargo spaces into which the cargo is loaded or to be loaded shall be closed.

.4 The cargo may be handled during precipitation provided that the actual moisture content of the cargo is sufficiently less than its TML so that the actual moisture content is not liable to be increased beyond the TML by the precipitation.

.5 The cargo in a cargo space may be discharged during precipitation provided that the total amount of the cargo in the cargo space is to be discharged in the port.

LOADING
Trim in accordance with the relevant provisions required under sections 4 and 5 of the Code.

PRECAUTIONS
Bilge wells shall be clean, dry and covered as appropriate, to prevent ingress of the cargo.

VENTILATION
The cargo spaces carrying this cargo shall not be ventilated during voyage.

CARRIAGE
The appearance of the surface of this cargo shall be checked regularly during voyage. If free water above the cargo or fluid state of the cargo is observed during voyage, the master shall take appropriate actions to prevent cargo shifting and potential capsize of the ship, and give consideration to seeking emergency entry into a place of refuge.

DISCHARGE
No special requirements.

CLEAN-UP
After discharge of this cargo, the bilge wells and the scuppers of the cargo spaces shall be checked and any blockage in the bilge wells and the scuppers shall be removed."

GRANULAR FERROUS SULPHATE

73 After the new schedule on FLY ASH, WET, a new schedule on GRANULAR FERROUS SULPHATE is added, as follows:

"**GRANULAR FERROUS SULPHATE**

DESCRIPTION
Grey to brown granules. Absorbs moisture and is highly soluble in water.

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
30^o to 45^o	1100 to 1600	0.63 – 0.9
SIZE	**CLASS**	**GROUP**
Up to 15 mm	Not applicable	C

HAZARD
Harmful if swallowed. Causes serious eye irritation. Causes skin irritation.
This cargo is non-combustible or has a low fire-risk.
Tends to caking when damp.
It is highly soluble and will be acidic when wet.
Excessive levels spilt into water systems may result in oxygen depletion from the water.

STOWAGE & SEGREGATION
"Separated from" oxidizing substances.

HOLD AND CLEANLINESS
Clean and dry as relevant to the hazards of the cargo.

WEATHER PRECAUTIONS
This cargo shall be kept as dry as practicable. It shall not be handled during precipitation. During handling of this cargo all non-working hatches of the cargo spaces into which this cargo is loaded shall be closed.

LOADING
Trim in accordance with the relevant provision required under sections 4, 5 and 6 of the Code.

PRECAUTIONS
Avoid contact with eyes and skin. Persons who may be in contact with the product shall wear protective clothing, gloves and eye protection. Minimize dust generation when loading. If dust is generated a filter mask shall also be worn.
Bilge wells shall be clean, dry and covered as appropriate, to prevent ingress of the cargo.

VENTILATION
The cargo spaces carrying this cargo shall not be ventilated during voyage.

CARRIAGE
Hatches of the cargo spaces shall be weathertight to prevent water ingress.

DISCHARGE
If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary.

CLEAN-UP
After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out."

GYPSUM

WEATHER PRECAUTIONS

74 In the second and third sentences, the words "handled" and "handling" are replaced by the words "loaded" and "loading", respectively.

LEAD NITRATE, UN 1469

PRECAUTIONS

75 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

MAGNESIUM NITRATE, UN 1474

PRECAUTIONS

76 The sentence is replaced by the following text:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

77 At the beginning of the paragraph, the following text is added:

"Magnesium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

MAGNESIUM SULPHATE FERTILIZERS

78 After existing schedule on MAGNESIUM NITRATE, UN 1474, a new schedule on MAGNESIUM SULPHATE FERTILIZERS is added, as follows:

"**MAGNESIUM SULPHATE FERTILIZERS**

DESCRIPTION
Powdered fertilizers or fertilizer components containing magnesium sulphate.
Grey to brown powder. Partially soluble in water and may be dusty.

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
30^o to 35^o	850 to 1150	0.87 – 1.18
SIZE	**CLASS**	**GROUP**
Powder	Not applicable	C

HAZARD
May be harmful if swallowed. May cause skin or eye irritation.
This cargo is non-combustible or has a low fire-risk.
It is partially soluble.
Dusty but may cake if wetted.

STOWAGE & SEGREGATION
No special requirements.

HOLD CLEANLINESS
Clean and dry as relevant to the hazards of the cargo.

WEATHER PRECAUTIONS
This cargo shall be kept as dry as practicable. It shall not be handled during precipitation. During handling of this cargo all non-working hatches of the cargo spaces into which this cargo is loaded shall be closed.

LOADING
Trim in accordance with the relevant provision required under sections 4, 5 and 6 of the Code.

PRECAUTIONS
Avoid contact with eyes and skin. Minimize dust generation when loading. Persons who may be exposed to the dust of the cargo shall wear goggles or other equivalent dust eye protection and dust filter mask. Those persons shall wear protective clothing, as necessary. Bilge wells shall be clean, dry and covered as appropriate, to prevent ingress of the cargo.

VENTILATION
The cargo spaces carrying this cargo shall not be ventilated during voyage.

CARRIAGE
Hatches of the cargo spaces shall be weathertight to prevent water ingress.

DISCHARGE
If this cargo has hardened, it shall be trimmed to avoid the formation of overhangs, as necessary.

CLEAN-UP
After discharge of this cargo, the cargo spaces and the bilge wells shall be swept clean and then thoroughly washed out."

METAL SULPHIDE CONCENTRATES

LOADING

79 The text ", in particular on smaller ships, i.e. 100 m long or less." is deleted.

MINERAL CONCENTRATES

BULK CARGO SHIPPING NAMES

80 The sentence "All known Bulk Cargo Shipping Names (BCSN) of mineral concentrates are listed above but the list is not exhaustive" after the list of Bulk Cargo Shipping Names is deleted.

LOADING

81 The text ", in particular on smaller ships, i.e. 100 m long or less." is deleted.

MONOAMMONIUM PHOSPHATE (M.A.P.)

LOADING

82 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

83 At the beginning of the paragraph, the following text is added:

"Monoammonium phosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

PHOSPHATE ROCK (calcined)

DISCHARGE

84 At the beginning of the paragraph, the following text is added:

"Phosphate rock (calcined) is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASH

LOADING

85 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

86 At the beginning of the paragraph, the following text is added:

"Potash is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM CHLORIDE

LOADING

87 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

88 At the beginning of the paragraph, the following text is added:

"Potassium chloride is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM NITRATE UN 1486

LOADING

89 The references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

90 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

91 At the beginning of the paragraph, the following text is added:

"Potassium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

POTASSIUM SULPHATE

LOADING

92 The references "4 and 5" are replaced by the references "4, 5 and 6".

PYRITES, CALCINED (Calcined Pyrites)

PRECAUTIONS

93 In the third sentence, the words "lime before loading" are replaced by the words "protective coating such as lime-wash before loading to avoid any potential corrosive reaction between the cargo, water and steel."

RASORITE (ANHYDROUS)

DISCHARGE

94 At the beginning of the paragraph, the following sentence is added:

"Rasorite (anhydrous) is hygroscopic and may cake in overhangs, impairing safety during discharge."

SALT

WEATHER PRECAUTIONS

95 In the second and third sentences, the words "handled" and "handling" are replaced by the words "loaded" and "loading", respectively.

SEED CAKE, containing vegetable oil UN 1386 (b)

DESCRIPTION

96 In the last paragraph, after the first sentence, the following text is added:

"The provisions of this schedule should also not apply to mechanically expelled citrus pulp pellets containing not more than 2.5% oil and 14% oil and moisture combined."

PRECAUTIONS

97 In the fifth sentence the words "it becomes apparent that fire is not liable to take place in the cargo space, to avoid the possibility of ignition of solvent vapours" are replaced by the words "fire is apparent".

REMARKS

98 The first sentence is deleted.

SEED CAKE UN 2217

PRECAUTIONS

99 In the existing fourth sentence, the words "it becomes apparent that fire is not liable to take place in the cargo space, to avoid the possibility of ignition of solvent vapours" are replaced by the words "fire is apparent".

REMARKS

100 The first sentence is deleted.

SEED CAKE (non-hazardous)

DESCRIPTION

101 At the end of the first paragraph, the following sentence is added:

"The provisions of this schedule also apply to mechanically expelled citrus pulp pellets containing not more that 2.5% oil and 14% oil and moisture combined."

SODIUM NITRATE, UN 1498

PRECAUTIONS

102 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

103 At the beginning of the paragraph, the following text is added:

"Sodium nitrate is hygroscopic and may cake in overhangs, impairing safety during discharge."

SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE UN 1499

LOADING

104 The references "4 and 5" are replaced by the references "4, 5 and 6".

PRECAUTIONS

105 At the end of the paragraph, the following text is added:

"The master and officers are to note that the ship's fixed gas fire-fighting installation will be ineffective on fires involving this cargo and that applying copious amount of water may be necessary."

DISCHARGE

106 At the beginning of the paragraph, the following text is added:

"Sodium nitrate and potassium nitrate mixture is hygroscopic and may cake in overhangs, impairing safety during discharge."

SULPHUR (formed, solid)

PRECAUTIONS

107 The third sentence "Holds including trimming plates and tanktops shall be treated with effective, commercially available protective coating or lime-washed to avoid any potential corrosive reaction between sulphur, water and steel" is replaced by the sentence "Holds including trimming plates and tanktops shall be treated with protective coating such as lime-wash to avoid any potential corrosive reaction between sulphur, water and steel."

SUPERPHOSPHATE

LOADING

108 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

109 At the beginning of the paragraph, the following text is added:

"Superphosphate is hygroscopic and may cake in overhangs, impairing safety during discharge."

TAPIOCA

LOADING

110 The references "4 and 5" are replaced by the references "4, 5 and 6".

UREA

LOADING

111 The references "4 and 5" are replaced by the references "4, 5 and 6".

DISCHARGE

112 At the beginning of the paragraph, the following text is added:

"Urea is hygroscopic and may cake in overhangs, impairing safety during discharge."

WOOD PELLETS

LOADING

113 The references "4 and 5" are replaced by the references "4, 5 and 6".

WOOD PRODUCTS – GENERAL

114 After existing schedule on WOOD PELLETS, a new schedule on Wood products – General is added, as follows:

"**Wood products – General**
(See Bulk Cargo Shipping Names below)
LOGS **PULP WOOD**
TIMBER **ROUNDWOOD**
SAW LOGS

DESCRIPTION
This schedule only applies to wood products transported in bulk, i.e. loaded and discharged by such means as elevator or grab and which are not specifically referred to in a separate schedule.

CHARACTERISTICS

ANGLE OF REPOSE	BULK DENSITY (kg/m^3)	STOWAGE FACTOR (m^3/t)
Not applicable	250 to 500	2 to 4
SIZE	**CLASS**	**GROUP**
-	MHB	B

HAZARD
These cargoes are liable to cause oxygen depletion and increase of carbon dioxide in the cargo space and adjacent spaces.
These cargoes are non-combustible or have a low fire-risk.

STOWAGE & SEGREGATION
No special requirements.

HOLD CLEANLINESS
No special requirements.

WEATHER PRECAUTIONS
No special requirements.

LOADING
Trim in accordance with the relevant provisions required under sections 4 and 5 of the Code.

PRECAUTIONS
Entry of personnel into cargo and adjacent confined spaces shall not be permitted until tests have been carried out and it has been established that the oxygen level is 21%. If this condition is not met, additional ventilation shall be applied to the cargo hold or adjacent enclosed spaces and remeasuring shall be conducted after a suitable interval.

An oxygen meter shall be worn and activated by all crew when entering cargo and adjacent enclosed spaces.

VENTILATION
Ventilation of enclosed spaces adjacent to a cargo hold before entry may be necessary even if these spaces are apparently sealed from the cargo hold.

CARRIAGE
No special requirements.

DISCHARGE
No special requirements.

CLEAN-UP
No special requirements.

EMERGENCY PROCEDURES

SPECIAL EMERGENCY EQUIPMENT TO BE CARRIED Self-contained breathing apparatus and an oxygen meter should be available.
EMERGENCY PROCEDURES Nil **EMERGENCY ACTION IN THE EVENT OF FIRE** Batten down; use ship's fixed fire-fighting installation if fitted. Exclusion of air may be sufficient to control fire. **MEDICAL FIRST AID** Refer to Medical First Aid Guide (MFAG), as amended.

WOOD PULP PELLETS

115 The existing schedule on WOOD PULP PELLETS is deleted in its entirety.

APPENDIX 3

Properties of solid bulk cargoes

116 In subsection 1.1, the following bulk cargo shipping names are deleted:

CASTOR BEANS
SODIUM NITRATE

117 In subsection 1.1, the following bulk cargo shipping names are added:

GRANULAR FERROUS SULPHATE
MAGNESIUM SULPHATE FERTILIZERS
TAPIOCA
WOOD PELLETS

APPENDIX 4

Index

118 The BCSN "FLY ASH" is replaced by "FLY ASH, DRY".

119 The following rows are added in the table:

MATERIAL	GROUP	REFERENCES
DISTILLERS DRIED GRAINS WITH SOLUBLES	**C**	
FERROUS SULPHATE HEPTAHYDRATE	**C**	
FLY ASH, WET	**A**	
GRANULAR FERROUS SULPHATE	**C**	
LOGS	**B**	**see Wood Products – General schedule**
MAGNESIUM SULPHATE FERTILIZERS	**C**	
PULP WOOD	**B**	**see Wood Products – General schedule**
ROUNDWOOD	**B**	**see Wood Products – General schedule**
SAW LOGS	**B**	**see Wood Products – General schedule**
TIMBER	**B**	**see Wood Products – General schedule**
Wood Products – General	**B**	

120 The words "WOOD PULP PELLETS" and "Pellets, wood pulp" are deleted.

***

海安会 MSC.318(89)决议
（2011 年 5 月 20 日通过）

通过国际海运固体散货（IMSBC）规则修正案

海上安全委员会，

忆及国际海事组织公约第 28(b)条关于本委员会的职能，

注意到 MSC.268（85）决议通过的《国际海运固体散货（IMSBC）规则》（以下称“IMSBC 规则”），其根据经修正的《1974 年国际海上人命安全公约》（以下称“公约”）第 VI 章和第 VII 章已成为强制性规定，

还注意到公约第 VIII(b)条和第 VI/1-1.1 条关于修正 IMSBC 规则的修正程序，

在其第 89 届会议上**审议了**按公约第 VIII(b)(i)条提议和分发的 IMSBC 规则的修正案，

1　按公约第 VIII(b)(iv)条**通过** IMSBC 规则的修正案，其文本载于本决议附件；

2　按公约第 VIII(b)(vi)(2)(bb)条规定，**决定**上述修正案于 2012 年 7 月 1 日应视为已被接受，除非在此日期之前，有三分之一以上的公约缔约国政府或拥有商船合计吨位数不少于世界商船总吨数 50%的缔约国政府通报其反对该修正案；

3　**提请**公约各缔约国政府注意，按公约第 VIII(b)(vi)(2)条规定，该修正案在按上述 2 被接受后，应于 2013 年 1 月 1 日生效；

4　**同意**公约各缔约国政府可从 2012 年 1 月 1 日起自愿全部或部分执行上述修正案；

5　**要求**秘书长按公约第 VIII(b)(v)条规定，将核准无误的本决议及其附件中修正案文本的副本分发给所有公约缔约国政府；

6　**进一步要求**秘书长将本决议及其附件的副本分发给所有非公约缔约国的本组织成员。

附件

国际海运固体散货（IMSBC）规则修正案 01-11

附录 1

固体散货细目

硅铁铝粉末(ALUMINIUM FERROSILICON POWDER) UN1395

预防措施

1　第 2 句中，“主管当局”一词由“主管机关”替代。

硝酸铝(ALUMINIUM NITRATE) UN1438

预防措施

2　在该段末尾增加下列句子：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

无涂层铝硅粉(ALUMINIUM SILICON POWDER, UNCOATED) UN1398

预防措施

3　第 2 句中，“主管当局”一词由“主管机关”替代。

硝酸铵(AMMONIUM NITRATE) UN1942

可燃物质含量总计不超过 0.2%，包括任何以碳计算的有机物质，任何其他附加物质不计在内。

说明

4　删除“助燃。吸湿。”。

5　说明后新增注释如下：

“***注*：**

本细目应仅用于在按第 1 类的试验系列 1 和 2（见《联合国试验和衡准手册》第 1 部分）进行试验时不显示第 1 类特性的物质。”。

危害

6　在第 1 段开头，增加“氧化剂，助燃。”。

7　在现有第 1 句中，“这些物质”由“该货物”替代。

积载和隔离

8　在第 1 句中，“宜”由“应”替代。

装载

9　在第 1 句中，“4 和 5”由“4、5 和 6”替代。

装载期间，应符合下列规定：

10　删除与抽烟有关的第 1 条。

预防措施

11　在第 1 段中，现有第 3 句由下列文本替代：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

12　在第 1 段中，删除最后一句。

运输

13　新增第 2 句如下：

“在航行期间，应每天监测并记录该货物温度，以发现可能导致发热和缺氧的分解现象。”

卸货

14 第 2 句由下列文本替代：

“应不准加装燃油。除机舱外，应不准在该货物所用货物处所的相邻处所泵送燃油。”

应急程序

15 在关于装有这种物质的货物处所着火的规定中，在“船舶的固定式气体灭火”后插入“装置”一词。

16 在关于装有这种物质的货物处所着火的规定中，“使用大量的水”由“使用大量的水并隔离热源（如有）”替代。

硝酸铵基化肥(AMMONIUM NITRATE BASED FERTILIZER) UN2067

说明

17 在.2 中，在“白云岩”一词后插入“和/或矿物硫酸钙”。

注：

18 在注 3 中，删除“爆炸”一词。

积载和隔离

19 在第 4 句中，“液舱或双层底”由“液舱、双层底或管路”替代。

装载

20 在第 1 句中，“4 和 5”由“4、5 和 6”替代。

预防措施

21 在第 1 句后，增加一句如下：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

运输

22 在第 2 句中，“导致自热”由“可能导致发热”替代。

卸货

23 第 1 句由下列文本替代：

“应不准加装燃油。除机舱外，应不准在该货物所用货物处所的相邻处所泵送燃油。”

24 在新增的第 2 句之后增加下列文本：

“硝酸铵基化肥吸湿，可能悬垂结块，在卸货期间损害安全。”

应急程序

25 在关于装有这种物质的货物处所着火的规定中，“船舶的固定式灭火装置”由“船舶的固定式气体灭火装置”替代。

26 在关于装有这种物质的货物处所着火的规定中，在第 3 句中，在“水”一词后插入“并隔离热源（如有）”。

硝酸铵基化肥(AMMONIUM NITRATE BASED FERTILIZER) UN2071

说明

27 在第 2 段中，插入与“（见《联合国试验和衡准手册》第 III 部分 38.2）”有关的脚注如下：

“* 还见本规则附录 2 的 5。”

危害

28 在第 1 段中，“混合物”一词由第 1 句中的“货物”替代，在最后 1 句中，“混合物”一词由“货物”替代。

积载和隔离

29　在最后 1 句中，在“标准，则”之后插入“该货物积载时”。

装载

30　在第 1 段第 1 句中，“4 和 5”由“4、5 和 6”替代。

装载期间，应符合下列规定：

31　增加新的 1 条如下：

“●　在合理可行范围内不得使用可燃的系固和保护材料。如有必要使用木质货垫，应尽量少用。”

预防措施

32　在第 1 句后增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

33　第 1 句由下列文本替代：

“应不准加装燃油。除机舱外，应不准在该货物所用货物处所的相邻处所泵送燃油。”

34　在新增的第 2 句之后，增加一句如下：

“硝酸铵基化肥吸湿，可能悬垂结块，在卸货期间损害安全。”

应急程序

35　在关于装有这种物质的货物处所着火的规定中，“船舶的固定式灭火装置”由“船舶的固定式气体灭火装置”替代。

硝酸铵基化肥(AMMONIUM NITRATE BASED FERTILIZER)（无危害）

说明

36　在.2 中，在“白云岩”一词后插入“和/或矿物硫酸钙”。

37　在.4 中，插入与“（见《联合国试验和衡准手册》第 III 部分 38.2）”有关的脚注如下：

“*　还见本规则附录 2 的 5。”

危害

38　该标题下的整个原文由下列文本替代：

“该货物为不燃物或失火风险低。该货物虽归入无危害类别，但在遇到强热时显示 UN2071 所属第 9 类硝酸铵基化肥的某些特性。当该货物遇到强热时，会发生分解并放出有毒气体，在货物处所和相邻处所内以及甲板上将有产生有毒烟气的风险。对货物温度的监测可以及早显示货物分解。

化肥粉尘可能会刺激眼睛和粘膜。

该货物吸湿，受潮会结块。”

积载和隔离

39　在第 3 句中，“液舱或双层底”由“液舱、双层底或管路”替代。

40　在第 4 句中，“宜”由“应”替代。

41　在第 5 句中，“挡板”由“布置”替代。

42　在最后 1 段中，最后 1 句由下列文本替代：

“如为 A-60 级舱壁或对于短途国际航行，此要求不必适用。”

装载

43　在第 1 段第 1 句中，“4 和 5”由“4、5 和 6”替代。

预防措施

44　在第 1 句后增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

运输

45 删除第 2 句。

卸货

46 第 1 句由下列文本替代：

“应不准加装燃油。除机舱外，应不准在该货物所用货物处所的相邻处所泵送燃油。硝酸铵基化肥吸湿，可能悬垂结块，在卸货期间损害安全。”

应急程序

47 在关于装有这种物质的货物处所着火的规定中，“船舶的固定式灭火装置”由“船舶的固定式气体灭火装置”替代。

48 在关于装有这种物质的货物处所着火的规定中，在第 3 句中，在“水”一词后插入“并隔离热源（如有）”。

硫酸铵(AMMONIUM SULPHATE)

危害

49 在该段末尾增加下列文本：

“该货物吸湿，受潮会结块。”

装载

50 在最后 1 句中，“4 和 5”由“4、5 和 6”替代。

卸货

51 在该段开头增加下列文本：

“硫酸铵吸湿，可能悬垂结块，在卸货期间损害安全。”

硝酸钡(BARIUM NITRATE) UN1446

预防措施

52 在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

硼砂(BORAX)（五水合物原矿）

卸货

53 在该段开头增加下列文本：

“硼砂（五水合物原矿）吸湿，可能悬垂结块，在卸货期间损害安全。”

无水硼砂(BORAX, ANHYDROUS)（原矿或提炼品）

装载

54 “4 和 5”由“4、5 和 6”替代。

卸货

55 在该段开头增加下列文本：

“无水硼砂（原矿或提炼品）吸湿，可能悬垂结块，在卸货期间损害安全。”

褐煤砖(BROWN COAL BRIQUETTES)

危害

56 原文由下列文本替代：

“该货物容易点燃，易于自热，可能自燃并消耗货物处所的氧气。”

附录

57 在预防措施的 1.1 中，删除“和敞开的货物处所封闭装置”。

硝酸钙(CALCIUM NITRATE) UN1454

预防措施

58 在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

59 在该段开头增加下列文本：

“硝酸钙吸湿，可能悬垂结块，在卸货期间损害安全。”

硝酸钙化肥(CALCIUM NITRATE FERTILIZER)

装载

60 “4 和 5”由“4、5 和 6”替代。

粘土(CLAY)

清扫

61 原文由“该货物卸去后，应特别注意货物处所的舱底污水井”替代。

磷酸二铵(DIAMMONIUM PHOSPHATE)（D.A.P）

装载

62 “4 和 5”由“4、5 和 6”替代。

卸货

63 在该段开头增加下列文本：

“磷酸二铵吸湿，可能悬垂结块，在卸货期间损害安全。”

干酒精及其可溶物(DISTILLERS DRIED GRAINS WITH SOLUBLES)

64 在现有细目**直接还原铁（C）**后，新增细目**干酒精及其可溶物**如下：

“干酒精及其可溶物

说明

用酵母和酶对玉米的淀粉部分进行发酵以产生乙醇和二氧化碳后残留的粗谷粒和浓缩蒸馏可溶物的干混合物。颜色为黄褐色并有煮熟的玉米味。含水量不超过 13%，含油量不超过 11%。本细目不适用于非散装运输的湿酒精（WDG）和干酒精（DDG）。

特征

静止角	散货密度（kg/m^3）	积载因数（m^3/t）
不适用	450 至 520	1.92 至 2.22
大小	**类别**	**组别**
不适用	不适用	C

危害

无特殊危害。

该货物为不燃物或失火风险低。

积载和隔离
无特殊要求。
货舱清洁度
按货物的危害程度达到相应的清洁和干燥状态。
天气预防措施
该货物应尽实际可能保持干燥。该货物不得在降水期间装卸。在该货物装卸期间，装载该货物的货物处所的所有未用舱口均应关闭。
装载
在开敞未封闭的区域装载。按本规则第 4 和 5 节的相关规定进行平舱。
预防措施
无特殊要求。
通风
无特殊要求。
运输
载运该货物的货物处所的舱口应为风雨密，以防进水。
卸货
如该货物已硬化，必要时应平舱以避免形成悬垂块片。
清扫
无特殊要求。”

磷铁合金(FERROPHOSPHORUS)（包括砖形块）
运输
65　原文由下列文本替代：
“为测量根据货物信息获得的该货物可能释放的易燃和有毒气体（例如磷化氢）的含量，该货物载运期间船上应有针对每种气体或混合气体的合适的探测器。探测器应为经核准在爆炸性空气中使用的安全类型。载运该货的货物处所中这些气体的浓度应在航行期间定期测量，测量结果应有记录并在船上保存。”

硅铁(FERROSILICON) UN1408
附录—详细要求
66　在第 1 句中，“主管当局”一词由“主管机关”替代。

硅铁(FERROSILICON)（硅含量25%至30%或硅含量90%或以上）
装载
67　第 2 句由下列文本替代：
“由于该货物密度极高，内底可能会受力过大，除非货物在内底均匀铺开以使重量平均分布。在航行和装载期间，应充分注意确保内底不因货物呈堆状而受力过大。参见本细目的附录。”

附录—详细要求
68　在第 1 句和第 2 句中，“主管当局”一词由“主管机关”替代。

七水硫酸亚铁(FERROUS SULPHATE HEPTAHYDRATE)
69　在现有细目**黑色金属钻屑、削屑、旋屑或切屑 UN2793** 后，新增细目**七水硫酸亚铁**如

下：

“七水硫酸亚铁

说明

淡绿色晶体。水中极易溶解。货品一般称为“绿矾”。

特征

静止角	**散货密度（kg/m^3）**	**积载因数（m^3/t）**
不适用	750 至 1250	0.8 至 1.3
大小	**类别**	**组别**
不适用	不适用	C

危害

吞入有害。造成严重的眼睛刺激。造成皮肤刺激。

该货物为不燃物或失火风险低。

潮湿时易结块。

该货物极易溶解，湿时会呈酸性。

过量溢入水系统会导致水中缺氧。

积载和隔离

与氧化性物质“隔离”。

货舱清洁度

按货物的危害程度达到相应的清洁和干燥状态。

天气预防措施

该货物应尽实际可能保持干燥。该货物不得在降水期间装卸。在该货物装卸期间，装载该货物的货物处所的所有未用舱口均应关闭。

装载

按本规则第 4 和 5 节的相关规定进行平舱。

预防措施

避免接触眼睛和皮肤。可能接触货品的人员应穿戴防护服、手套和护目用具。通常这是一个不起尘的货品，但是在特别干燥条件下，如果产生粉尘，还应戴过滤面罩。舱底污水井应保持清洁、干燥并适当遮盖以防货物进入。

通风

在航行期间，不得对载运该货物的货物处所通风。

运输

货物处所的舱口应为风雨密，以防进水。

卸货

如该货物已硬化，必要时应平舱以避免形成悬垂块片。

清扫

该货物卸去后，货物处所和舱底污水井应清扫干净然后彻底冲洗。”

不含硝酸盐的化肥(FERTILIZERS WITHOUT NITRATES)（无危害）

卸货

70　在该段开头增加下列文本：

“不含硝酸盐的化肥吸湿，可能悬垂结块，在卸货期间损害安全。”

飘尘FLY ASH

71　在细目的标题**飘尘**中，增加“，干”。

飘尘，湿

72　在现有细目**飘尘**后，新增细目**飘尘，湿**如下：

“飘尘，湿

说明

灰色粉末。该货物是燃烧煤和油的火力发电厂产生的轻质细碎且多粉尘的细粉末状残留物和水的混合物（水不少于 10%）。具有氨的气味。

特征

静止角	散货密度（kg/m^3）	积载因数（m^3/t）
不适用	900 至 1300	0.77 至 1.11
大小	**类别**	**组别**
小于 1mm	不适用	A

危害

湿飘尘如含水量足够高则易于流动。

该货物为不燃物或失火风险低。

积载和隔离

与食品“隔离”。

货舱清洁度

无特殊要求。

天气预防措施

当货物由符合本规则 7.3.2 要求的特别建造或装备的货船以外的船舶载运时，应符合下列规定：

.1　应使货物的含水量在航行期间低于其 TML；

.2　除本细目另有明文规定外，该货物不得在降水期间装卸；

.3　除本细目另有明文规定外，在该货物装卸期间，装载或待装载该货物的处所的所有未用舱口均应关闭；

.4　如货物的实际含水量远低于其 TML，使实际水分含量不会因降水而超过其 TML，则可在降水期间装卸该货物；和

.5　如某一货物处所的全部货物要在港口卸完，则该货物处所可在降水期间卸货。

装载

按本规则第 4 和 5 节的相关规定进行平舱。

预防措施

舱底污水井应保持清洁、干燥并适当遮盖以防货物进入。

通风

在航行期间，不得对载运该货物的货物处所通风。

运输

该货物的表面外形应在航行期间定期检查。如在航行期间观察到货物表面出现自由水或货物呈现流体状态，船长应采取相应行动防止货物的移动和船舶可能的倾覆，并考虑设法紧急驶入避难地。

卸货

无特殊要求。

清扫

该货物卸去后，应检查货物处所的舱底污水井和泄水孔并应排除舱底污水井和泄水孔的任何堵塞。”

颗粒状硫酸亚铁(GRANULAR FERROUS SULPHATE)

73　在新细目**飘尘，湿**后，新增细目**颗粒状硫酸亚铁**如下：

“颗粒状硫酸亚铁

说明

灰至褐色颗粒。吸收水分并极易溶于水。

特征

静止角	**散货密度（kg/m^3）**	**积载因数（m^3/t）**
30^{o}至 45^o	1100 至 1600	0.63 至 0.9
大小	**类别**	**组别**
最大 15mm	不适用	C

危害

吞入有害。造成严重的眼睛刺激。造成皮肤刺激。

该货物为不燃物或失火风险低。

潮湿时易结块。

该货物极易溶解，湿时会呈酸性。

过量溢入水系统会导致水中缺氧。

积载和隔离

与氧化性物质“隔离”。

货舱清洁度

按货物的危害程度达到相应的清洁和干燥状态。

天气预防措施

该货物应尽实际可能保持干燥。该货物不得在降水期间装卸。在该货物装卸期间，装载该货物的货物处所的所有未用舱口均应关闭。

装载

按本规则第 4、5 和 6 节的相关规定进行平舱。

预防措施

避免接触眼睛和皮肤。可能接触货品的人员应穿戴防护服、手套和护目用具。装载时尽量减少粉尘的产生。如果产生粉尘，还应戴过滤面罩。

舱底污水井应保持清洁、干燥并适当遮盖以防货物进入。

通风

在航行期间，不得对载运该货物的货物处所通风。

运输

货物处所的舱口应为风雨密，以防进水。

卸货

如该货物已硬化，必要时应平舱以避免形成悬垂块片。

清扫

该货物卸去后，货物处所和舱底污水井应清扫干净然后彻底冲洗。”

石膏(GYPSUM)

天气预防措施

74　在第 2 和第 3 句中，“装卸”一词由“装载”替代。

硝酸铅(LEAD NITRATE) UN1469

预防措施

75　在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

硝酸镁(MAGNESIUM NITRATE) UN1474

预防措施

76　原句由下列文本替代：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

77　在该段开头增加下列文本：

“硝酸镁吸湿，可能悬垂结块，在卸货期间损害安全。”

硫酸镁化肥(MAGNESIUM SULPHATE FERTILIZERS)

78　在现有细目**硝酸镁 UN1474** 后，新增细目**硫酸镁化肥**如下：

“硫酸镁化肥

说明

含有硫酸镁的粉末化肥或化肥成分。

灰至褐色粉末。部分溶于水并可能多粉尘。

特征

静止角	**散货密度（kg/m^3）**	**积载因数（m^3/t）**
30^{o}至 35^o	850 至 1150	0.87 至 1.18
大小	**类别**	**组别**
粉末	不适用	C

危害

吞入可能有害。可造成皮肤或眼睛刺激。

该货物为不燃物或失火风险低。

该货物部分可溶。

多粉尘但潮湿时可能结块。

积载和隔离

无特殊要求。

货舱清洁度

按货物的危害程度达到相应的清洁和干燥状态。

天气预防措施

该货物应尽实际可能保持干燥。该货物不得在降水期间装卸。在该货物装卸期间，装载该货物的货物处所的所有未用舱口均应关闭。

装载

按本规则第 4、5 和 6 节的相关规定进行平舱。

预防措施

避免接触眼睛和皮肤。装载时尽量减少粉尘的产生。可能暴露于货物粉尘的人员应戴护目镜或其他等效的防尘护目用具和粉尘过滤面罩，必要时应穿防护服。

舱底污水井应保持清洁、干燥并适当遮盖以防货物进入。

通风

在航行期间，不得对载运该货物的货物处所通风。

运输

货物处所的舱口应为风雨密，以防进水。

卸货

如该货物已硬化，必要时应平舱以避免形成悬垂块片。

清扫

该货物卸去后，货物处所和舱底污水井应清扫干净然后彻底冲洗。”

金属硫化物精矿(METAL SULPHIDE CONCENTRATES)

装载

79　删除“，特别对船长为 100 m 或以下的较小船舶”。

精矿(MINERAL CONCENTRATES)

散货运输名称

80　删除散货运输名称清单后的“以上列出精矿的所有已知散货运输名称（BCSN），但该清单并非详尽无遗。”一句。

装载

81　删除“，特别对船长为 100 m 或以下的较小船舶”。

磷酸一铵(MONOAMMONIUM PHOSPHATE)（M.A.P.）

装载

82　“4 和 5”由“4、5 和 6”替代。

卸货

83　在该段开头增加下列文本：

“硫酸一铵吸湿，可能悬垂结块，在卸货期间损害安全。”

磷酸盐岩(PHOSPHATE ROCK)（经煅烧）

卸货

84　在该段开头增加下列文本：

“磷酸盐岩（经煅烧）吸湿，可能悬垂结块，在卸货期间损害安全。”

钾碱(POTASH)

装载

85　“4 和 5”由“4、5 和 6”替代。

卸货

86　在该段开头增加下列文本：

“钾碱吸湿，可能悬垂结块，在卸货期间损害安全。”

氯化钾(POTASSIUM CHLORIDE)

装载

87　“4 和 5”由“4、5 和 6”替代。

卸货

88　在该段开头增加下列文本：

“氯化钾吸湿，可能悬垂结块，在卸货期间损害安全。”

硝酸钾(POTASSIUM NITRATE) UN1486

装载

89 “4 和 5”由“4、5 和 6”替代。

预防措施

90 在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

91 在该段开头增加下列文本：

“硝酸钾吸湿，可能悬垂结块，在卸货期间损害安全。”

硫酸钾(POTASSIUM SULPHATE)

装载

92 “4 和 5”由“4、5 和 6”替代。

黄铁矿(PYRITES, CALCINED)（煅烧黄铁矿）

预防措施

93 第 3 句中，“装载前铺上石灰”由“装载前涂上防护涂层（例如用石灰水粉刷），以防货物、水和钢材之间可能产生腐蚀性反应。”替代。

斜方硼砂(RASORITE)（无水）

卸货

94 在该段开头增加下列句子：

“斜方硼砂（无水）吸湿，可能悬垂结块，在卸货期间损害安全。”

盐(SALT)

天气预防措施

95 在第 2 和第 3 句中，“装卸”一词由“装载”替代。

含植物油种子饼(SEED CAKE, containing vegetable oil) UN1386（b）

说明

96 在最后 1 段第 1 句后，增加下列文本：

“本细目的规定也不应适用于经机械压榨的油含量不大于 2.5%、合计油和水含量不大于 14%的柑橘渣粒。”

预防措施

97 在第 5 句中，“不到货物处所明显不会着火时不得使用二氧化碳或惰性气体，以免可能将溶剂蒸气点燃”由“除非明显着火时否则不得使用二氧化碳或惰性气体”替代。

备注

98 删除第 1 句。

种子饼(SEED CAKE) UN2217

预防措施

99 在现有第 4 句中，“不到货物处所明显不会着火时不得使用二氧化碳或惰性气体，以免

可能将溶剂蒸气点燃”由“除非明显着火时否则不得使用二氧化碳或惰性气体”替代。

备注

100　删除第 1 句。

种子饼(SEED CAKE)（无危害）

说明

101　在第 1 段结尾增加一句如下：

“本细目的规定也适用于经机械压榨的油含量不大于 2.5%、合计油和水含量不大于 14%的柑橘渣粒。”

硝酸钠(SODIUM NITRATE) UN1498

预防措施

102　在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

103　在该段开头增加下列文本：

“硝酸钠吸湿，可能悬垂结块，在卸货期间损害安全。”

硝酸钠和硝酸钾混合物(SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE) UN1499

装载

104　“4 和 5”由“4、5 和 6”替代。

预防措施

105　在该段末尾增加下列文本：

“船长和高级船员应注意，船舶的固定式气体灭火装置对波及该货物的火灾无效并可能有必要施放大量的水。”

卸货

106　在该段开头增加下列文本：

“硝酸钠和硝酸钾混合物吸湿，可能悬垂结块，在卸货期间损害安全。”

硫磺SULPHUR（成形，固体）

预防措施

107　第 3 句“货舱包括平舱板和内底应用市场上供应的有效防护涂层予以处理或用石灰水粉刷，以防硫磺、水和钢材之间可能产生腐蚀性反应。”由“货舱包括平舱板和内底应用防护涂层予以处理（例如用石灰水粉刷），以防硫磺、水和钢材之间可能产生腐蚀性反应。”替代。

过磷酸盐(SUPERPHOSPHATE)

装载

108　“4 和 5”由“4、5 和 6”替代。

卸货

109　在该段开头增加下列文本：

“过磷酸盐吸湿，可能悬垂结块，在卸货期间损害安全。”

木薯淀粉(TAPIOCA)

装载

110 “4 和 5”由“4、5 和 6”替代。

尿素(UREA)

装载

111 “4 和 5”由“4、5 和 6”替代。

卸货

112 在该段开头增加下列文本：

“尿素吸湿，可能悬垂结块，在卸货期间损害安全。”

木球团(WOOD PELLETS)

装载

113 “4 和 5”由“4、5 和 6”替代。

木制品(WOOD PRODUCTS)—常规的

114 在现有细目**木球团**后，新增细目**木制品—常规的**如下：

“木制品—常规的

（见以下散货运输名称）

原木　　制浆木材

木材　　圆材

锯木

说明

本细目只适用于散装运输的木制品，即用升降机或抓斗等方式装卸，且未具体列于单独的细目中。

特征

静止角	**散货密度（kg/m^3）**	**积载因数（m^3/t）**
不适用	250 至 500	2 至 4
大小	**类别**	**组别**
--	MHB	B

危害

这些货物易造成货物处所及相邻处所缺氧和二氧化碳增加。

这些货物为不燃物或失火风险低。

积载和隔离

无特殊要求。

货舱清洁度

无特殊要求。

天气预防措施

无特殊要求。

装载

按本规则第 4 和 5 节的相关规定进行平舱。

预防措施

应不准人员进入货物处所和相邻狭小处所，除非已作检测并已确定氧含量为 21%。如不符

合这一条件，应增加货舱或相邻封闭处所的通风量，并应在经过一段适当时间间隔后重新测量气体含量。

所有船员进入货物处所和相邻封闭处所时，均应配戴和启用氧气测量计。

通风

货舱的相邻封闭处所即使已明显与货舱密封分开，在进入这些处所前可能仍需通风。

运输

无特殊要求。

卸货

无特殊要求。

清扫

无特殊要求。

应急程序

应携带的专用应急设备 宜备有自给式呼吸器及氧气测量计。
应急程序 无 **火灾应急措施** 关闭舱盖板；使用船舶的固定式灭火装置（如设有）。隔绝空气可能足以控制火势。 **医疗急救** 参见经修正的《医疗急救指南（MFAG）》。

木浆球团(WOOD PULP PELLETS)

115　现有细目**木浆球团**全部删除。

附录 3
固体散货的特性

116　在 1.1 中，删除下列散货运输名称：

蓖麻籽

硝酸钠

117　在 1.1 中，增加下列散货运输名称：

颗粒状硫酸盐亚铁

硫酸镁化肥

木薯淀粉

木球团

附录 4
索引

118　BCSN“飘尘”由“飘尘，干”替代。

119　在表中增加下列各行：

物质	组别	参照
干酒精及其可溶物	C	
七水硫酸亚铁	C	
飘尘，湿	A	
颗粒状硫酸亚铁	C	

原木	B	见木制品—常规细目
硫酸镁化肥	C	
制浆木材	B	见木制品—常规细目
圆材	B	见木制品—常规细目
锯木	B	见木制品—常规细目
木材	B	见木制品—常规细目
木制品—常规的	B	

120　删除“木浆球团”和“球团，木浆质”。

CCS