# **ANNEXES**

# TO THE RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF CHEMICAL TANKERS

ND No. 2-020101-164-E



St. Petersburg 2022

# ANNEXES TO THE RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF CHEMICAL TANKERS

The Annexes being a part of the Rules for the Classification and Construction of Chemical Tankers of Russian Maritime Register of Shipping (RS, the Register) have been approved in accordance with the established procedure and come into force on 1 January 2022.

The Annexes are based on the 2021 edition taking into account the amendments developed immediately before publication.

The provisions of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) with relevant amendments thereto implemented by resolutions MSC.460(101) and MEPC.318(74) of the International Maritime Organization (IMO) have been taken into consideration in the Annexes.

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#### **REVISION HISTORY**

(purely editorial amendments are not included in the Revision History)

For this version, there are no amendments to be included in the Revision History.

ANNEX 1

# OPERATIONAL REQUIREMENTS (based on Chapter 16 of the IBC Code, as amended)

#### 1 MAXIMUM ALLOWABLE QUANTITY OF CARGO PER TANK

**1.1** The quantity of cargo allowable for carriage in any one tank is indicated in 1.2.1, Part I "Classification".

#### **2 CARGO INFORMATION**

- **2.1** A copy of the IBC Code or the Rules for the Classification and Construction of Chemical Tankers<sup>1</sup> shall be on board every ship covered by these Rules. A copy of the IBC Code shall obligatory be on board ships covered by the IBC Code.
- 2.2 Any cargo offered for bulk shipment shall be indicated in the shipping documents by the product name under which it is listed in Part XI "Summary of Technical Requirements" or in Annex 4. Where the cargo is a mixture, an analysis indicating the dangerous components contributing significantly to the total hazard of the product shall be provided, or a complete analysis if this is available. Such an analysis shall be certified by the manufacturer or by an independent expert agreed by the Register and/or Flag State MA.
- **2.3** Information shall be on board and kept in a readily accessible place, giving the necessary data for the safe carriage of cargo. Such information shall include a cargo stowage plan and also the following data:
- **.1** a full description of the physical and chemical properties, including reactivity, necessary for safe containment of the cargo;
  - .2 action to be taken in the event of spills or leaks;
  - .3 countermeasures against accidental personal contact;
  - .4 fire-fighting procedures and fire-fighting media;
  - .5 procedures for cargo transfer, tank cleaning, gas-freeing and ballasting;
- **.6** list of cargoes required to be stabilized or inhibited. Such cargoes shall not be permitted for carriage if the documents required by <u>2.2</u> are not supplied.
- **2.4** If sufficient information necessary for the safe transportation of the cargo is not available, the cargo shall be refused.
- **2.5** Cargoes which evolve highly toxic imperceptible vapours shall not be transported unless perceptible additives are introduced into the cargo.
- **2.6** Where Part XI "Summary of Technical Requirements" refers to the requirements, the cargo viscosity at 20 °C shall be specified in the information on safe carriage of cargo. If the cargo viscosity exceeds 50 MPa, the temperature, at which the cargo has a viscosity of 50 MPa shall be specified in the information.
- **2.7** Where Part XI "Summary of Technical Requirements" refers to the requirements, the cargo melting point shall be indicated in the information on safe carriage of cargo.
- **2.8** Where column "o" in the table of Chapter 17 of the IBC Code refers to paragraph 16.2.7 of the IBC Code, the cargo is subject to the prewash requirements in regulation 13.7.1.4 of Annex II of MARPOL 73/78.

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<sup>&</sup>lt;sup>1</sup> Hereinafter referred to as "these Rules".

#### **3 PERSONNEL TRAINING**

- **3.1** Each crew member shall be able to use protective equipment and have basic training in the procedures appropriate to his duties necessary under emergency conditions.
- **3.2** Personnel involved in cargo operations shall be adequately trained in cargo handling procedures.
- **3.3** Officers shall be trained in emergency procedures to deal with conditions of leakage, spillage or fire involving the cargo.

Sufficient number of them shall be instructed and trained in first medical aid for crew members injured due to contact with cargo carried.

#### **4 ENTRY INTO CARGO TANKS**

- **4.1** Crew members shall not enter cargo tanks, void spaces around such tanks, cargo-handling spaces or other enclosed spaces unless:
  - .1 the compartment is free of toxic vapours and not deficient in oxygen; or
- **.2** personnel wear breathing apparatus and other necessary protective equipment, and the entire operation in under the supervision of a responsible officer.
- **4.2** Crew members shall not enter such spaces when the only hazard is of purely flammable nature, except under the supervision of a responsible officer.

#### **5 OPENINGS IN TANKS**

**5.1** During handling and carriage of cargoes producing flammable and/or toxic vapours or when ballasting after the discharge of such cargo, cargo-tank lids shall always be kept closed.

With any hazardous cargo, cargo-tank lids, ullage and sighting ports and tank washing access covers shall be open only when necessary.

#### **6 STOWAGE OF CARGO SAMPLES**

- **6.1** Cargo samples shall be stowed in a designated space situated in the cargo area.
- **6.2** The stowage space shall be:
- .1 cell-divided to stow bottles with cargo:
- .2 made of material resistant to the different liquids intended to be stowed; and
- **.3** equipped with adequate ventilation arrangements.
- **6.3** Samples which react with each other dangerously shall not be stowed close to each other.
  - **6.4** Samples shall not be retained on board longer than necessary.

#### 7 CARGOES NOT TO BE EXPOSED TO EXCESSIVE HEAT

- **7.1** Where the possibility exists of polymerization, decomposition or evolution of gas, resulting from local overheating of the cargo, such cargo shall be loaded and carried adequately segregated from other products whose temperature is sufficiently high.
  - **7.2** Heating coils in tanks carrying this product shall be blanked off.
- **7.3** Products which are not permitted to be heated, shall not be carried in deck tanks which are not insulated.

#### 8 ADDITIONAL MEASURES FOR THE PROTECTION OF THE MARINE ENVIRONMENT

#### 8.1 GENERAL

**8.1.1** The requirements of this Section apply to ships carrying cargoes noted as category X, Y or Z noxious liquid substances in Chapter 17 of the IBC Code, as amended.

#### **8.2 REQUIREMENTS FOR EQUIPMENT AND ARRANGEMENTS**

- **8.2.1** The equipment and arrangements of the ships shall comply with Regulation 12, Annex II to MARPOL 73/78.
- **8.2.2** Substances with a melting point equal to or greater than 15 °C shall only be carried in a cargo tank fitted with a cargo heating system.

Such substances shall not be carried in cargo tanks any boundary of which is formed by the ship shell plating.

#### 8.3 PROCEDURES AND ARRANGEMENTS MANUAL

- **8.3.1** Each ship shall be provided with a Procedures and Arrangements Manual (for the discharge of noxious liquid substances) developed for the ship in accordance with the standard format given in Appendix 4 to Annex II of MARPOL 73/78, as amended, and approved by the Register.
- **8.3.2** Each ship shall be fitted with equipment and arrangements identified in its Procedures and Arrangements Manual.

#### 9 EMERGENCY OUTFIT

**9.1** If applicable, the following items of emergency outfit intended to remove faults within the cargo area, made of materials eliminating the possibility of dangerous reactions with any product to be carried and having sufficient chemical resistance to the effect of these products, shall be kept on chemical tankers as a part of the emergency outfit specified in Table 9.2.1, Part III "Equipment, Arrangements and Outfit" of the Rules for the Classification and Construction of Sea-Going Ships¹ or as addition thereto:

patches:

rigging and fitter's tools;

stretchers and wedges;

pipes and couplings of dimensions used on the chemical tanker;

plugs, end-pieces, etc.;

sheet materials for gaskets, packing material.

<sup>&</sup>lt;sup>1</sup> Hereinafter referred to as "the Rules for the Classification".

ANNEX 2

# MANUAL FOR INSPECTION, CLEANING, PASSIVATION AND LOADING OF TANKS FOR THE CARRIAGE OF HYDROGEN PEROXIDE SOLUTIONS 8 — 60 % BY MASS

#### 1 GENERAL

- **1.1** Tanks having contained cargoes other than hydrogen peroxide shall be inspected, cleaned and passivated before re-use for the transportation of hydrogen peroxide solutions.
- **1.2** Unless otherwise specified, all steps in inspection, cleaning and passivation apply to the tanks and to all associated piping and equipment having been in contact with the other cargo.
- **1.3** Inspections and cleaning of tanks as given in <u>Section 2</u>, shall be carried out under the supervision of the master or the shipper.
- **1.4** Cleaning and passivation of tanks specified in Sections 2 and 3 as well as loading the hydrogen peroxide solutions specified in Section 5, shall be carried out under the supervision and responsibility of a representative of the hydrogen peroxide manufacturer or under super vision and responsibility of another person familiar with the safety-relevant properties of this product.

### 2 INSPECTIONS AND CLEANING OF STAINLESS STEEL AND PURE ALUMINIUM TANKS

- **2.1** After unloading the previous cargo all residues, scale and rust shall be removed from the tank and the tank shall be inspected to ensure that no residues, scale and rust are present therein.
- **2.2** Tanks and associated equipment shall be washed with clean filtered water. The water to be used shall at least have the quality of potable water with a low chlorine content.
- **2.3** Trace residues and vapours of the previous cargo shall be removed by steaming of tank and equipment.
- **2.4** Tanks and equipment shall be washed again with clean water, as specified in <u>2.2</u> and dried, using filtered, oil-free air.
- **2.5** The atmosphere in the tank shall be sampled and investigated for the presence of organic vapours and oxygen concentration.
- **2.6** The tank shall be checked again for residues of the previous cargo, scale and rust as well as for any smell of the previous cargo.
- **2.7** If inspection or measurements indicate the presence of residues of the previous cargo or its vapours, steps 2.2 2.4 shall be repeated.

#### **3 CLEANING AND PASSIVATION OF STAINLESS STEEL TANKS**

- 3.1 Tank and equipment made from stainless steel which have contained other cargoes than hydrogen peroxide or which have been under repair shall be cleaned and passivated in accordance with the requirements of 3.1.1 3.1.8, regardless of any previous passivation.
- **3.1.1** Welds and repaired parts shall be cleaned, ground and finished using stainless steel wire brush, chisel, sandpaper or buff.

**3.1.2** Fatty and oily residues shall be removed by the use of appropriate organic solvents or detergent solutions in water.

The use of chlorine-containing compounds shall be avoided as they can seriously interfere with passivation.

- **3.1.3** The residues of the degreasing agent shall be removed, followed by a washing with water.
- **3.1.4** In the next step, scale and rust shall be removed by the application of acid (e.g. a mixture of nitric and hydrofluoric acids), followed again by a washing with clean water.
- **3.1.5** All the metal surfaces which can come into contact with hydrogen peroxide solutions shall be passivated by the application of nitric acid of a concentration between 10 and 35 % by mass. The nitric acid must be free from heavy metals, other oxidizing agents or hydrogen fluoride.

The passivation process shall continue for 8–24 h, depending upon the concentration of acid, the ambient temperature and other factors. During this time a continuous contact between the surfaces to be passivated and the nitric acid shall be ensured. In the case of large surfaces this may be achieved by recirculating the acid.

Hydrogen gas may be evolved in the passivation process, leading to the presence of an explosive atmosphere in the tanks. Therefore, appropriate measures must be taken to avoid the evolvement of hydrogen gas and build-up of ignition of such an atmosphere.

- **3.1.6** After passivation the surfaces shall be thoroughly washed with clean filtered water. The washing process shall be repeated until the effluent water has the same pH value as the incoming water.
- **3.1.7** Structures passivated according to the above steps may cause some surface erosion when coming into contact with hydrogen peroxide solution for the first time. This process will cease after a short time (usually within two or three days). Therefore, an additional flushing of the passivated surfaces with hydrogen peroxide solutions for a period of at least two days is recommended.
- **3.1.8** Only degreasing and acid cleaning agents which have been recommended for this purpose by the manufacturer of the hydrogen peroxide shall be used in the process.

#### **4 CLEANING AND PASSIVATION OF ALUMINIUM TANKS**

- **4.1** Tanks and equipment made from aluminium and which have contained cargoes other than hydrogen oxide, or which have been under repair, shall be cleaned and passivated in accordance with the requirements of 4.1.1 4.1.5.
- **4.1.1** The tank shall be washed with a solution of sulphonated detergent in hot water, followed by a washing with water.
- **4.1.2** The surfaces shall then be treated for 15–20 min with a solution of sodium hydroxide of a concentration of 7 % by mass or treated for a longer period with a less concentrated solution (e.g. for 12 h with 0,4–0,5 % sodium hydroxide).

To prevent excessive corrosion at the bottom of the tank when treating with more concentrated solutions of sodium hydroxide water shall be added continuously to dilute the sodium hydroxide solution which collects there.

**4.1.3** Tanks shall be thoroughly washed with clean, filtered water.

As soon as possible after washing, tanks shall be passivated by the application of nitric acid of a concentration between 30 and 35 % by mass.

The passivation process shall continue for 16–24 h. During this time a continuous contact between the surfaces to be passivated and the nitric acid shall be ensured.

**4.1.4** After passivation all the surfaces shall be thoroughly washed with clean, filtered water. The washing process shall be repeated until the effluent water has the same pH value as the incoming water.

**4.1.5** A visual inspection shall be made to ensure that all surfaces have been adequately passivated.

It is recommended that an additional flushing of the surface passivated is carried out for 24 h with hydrogen peroxide solutions of a concentration of 3 % by mass.

#### **5 LOADING OF TANKS**

- **5.1** The concentration and stability of the hydrogen peroxide solution shall be determined during loading.
- **5.2** The hydrogen peroxide solution is loaded under visual supervision of the interior of the tank from an appropriate opening.
- **5.3** If bubbling is observed which does not disappear within 15 min after the completion of loading, the hydrogen peroxide solutions shall be unloaded and disposed of in an environmentally safe manner. The tanks shall then be cleaned and repassivated as described above.

#### 6 PREPARATION OF TANKS FOR THE CARRIAGE OF OTHER CARGOES

- **6.1** All steps specified in this paragraph shall apply both to the cargo tanks and to all the piping and equipment having been in contact with hydrogen peroxide.
- **6.1.1** All hydrogen peroxide cargo residues shall be drained as completely as possible from tanks and equipment.
- **6.1.2** Tanks and equipment shall be rinsed with clean water, and subsequently thoroughly washed with clean water.
  - **6.1.3** The interior of the tanks shall be dried and inspected for any residues.
- **6.1.4** All steps shall be carried out under the supervision of the master or the shipper. Inspection referred to in <u>6.1.3</u> shall be carried out by a person familiar with the safety relevant properties of the chemical to be transported and of hydrogen peroxide.

#### **7 PRECAUTIONS**

- **7.1** Hydrogen peroxide decomposition may enrich the atmosphere with oxygen and, therefore, appropriate precautions shall be observed.
- **7.2** Hydrogen gas may be evolved in the passivation processes described in <u>3.1.5</u>, <u>4.1.2</u> and <u>4.1.3</u>, leading to the presence of an explosive atmosphere in the tank. Therefore, special measures must be taken to avoid the build-up of such an atmosphere.

#### ANNEX 3

#### NAMES AND SYNONYMS OF VEGETABLE OIL, COD-LIVER OIL AND ADIPOSE

#### **CASTOR OIL**

BP Castor oil
BSS Castor oil
Commercial Castor oil
First Pressure Castor oil
Fractionated Castor oil
Hydrogenated Castor oil
Interesterified Castor oil
No. 1 Castor oil
Pharmaceutical Grade Castor oil
Ricinus oil

#### **COCOA BUTTER**

Cocoa butter Degummed
Cocoa butter Pressed Degummed Deodorized
Crude Cocoa butter
Deodorized Cocoa butter
Deodorized Degummed Cocoa butter
PPP (Pure Prime Pressed) Cocoa butter

#### **COCONUT OIL**

Cochin Coconut oil
Coconut Palm oil
Copra oil
Crude Coconut oil
Degummed Coconut oil
Fractionated Coconut oil
Free Coconut oil
Hydrogenated Coconut oil
Interesterified Coconut oil
RBD Coconut oil

#### **CORN OIL**

Crude Corn oil
Crude Degummed Corn oil
Fractionated Corn oil
Hydrogenated Corn oil
Interesterified Corn oil
Maize oil
Refined & Bleached Corn oil
Refined, Bleached & Winterized Corn oil

RBD Corn oil RBD Maize oil RBDW Corn oil RBDW Maize oil

#### **COTTONSEED OIL**

Cotton oil Fractionated Cottonseed oil Hydrogenated Cottonseed oil Interesterified Cottonseed oil PBSY Cottonseed oil Semi-refined Cottonseed oil

#### **FISH OIL**

Anchovy oil
Capeline oil
Cod oil
Crude Fish oil
Fractionated Fish oil
Herring oil
Hydrogenated Fish oil
Interesterified Fish oil
Menhaden oil
Menhaden Stearin Salmon oil
Sardine oil

#### **GROUNDNUT OIL**

Arachis oil
Crude Groundnut oil
Fractionated Groundnut oil
Hydrogenated Groundnut oil
Interesterified Groundnut oil
Peanut oil
Refined Groundnut oil

#### **ILLIPE OIL**

Borneo Tallow
Fractionated Illipe oil
Green butter
Hydrogenated Illipe oil
Illipe butter
Interesterified Illipe oil
Tengkawang butter

#### LARD

Choice Kettle lard
Crude lard Edible lard
Fractionated lard
Hydrogenated lard
Inedible lard
Interesterified lard
Leaf lard
Steam lard

#### LINSEED OIL

Flaxseed oil
Crude Linseed oil
Fractionated Linseed oil
Hydrogenated Linseed oil
Interesterified Linseed oil
Raw Linseed oil

#### MANGO KERNEL OIL

Fractionated Mango Kernel oil Hydrogenated Mango Kernel oil Interesterified Mango Kernel oil Mangifea Indica oil Mango butter Mango Seed oil

#### **OLIVE OIL**

Crude Olive oil
Extra Virgin Olive oil
Lampante Virgin Olive oil
Olive-Pomace oil
Ordinary Virgin Olive oil
Refined Olive oil
Virgin Olive oil

#### RAPESEED OIL

Canola oil
Crude Degummed Rapeseed oil
Crude Rapeseed oil
Fractionated HE Rapeseed oil
Fractionated Rapeseed oil
Genetically Modified Rapeseed oil
HE Rapeseed oil
HEAR oil
High Erucic Acid Rapeseed oil

Hydrogenated HE Rapeseed oil
Hydrogenated Rapeseed oil
Interesterified HE Rapeseed oil
Interesterified Rapeseed oil
LEAR oil
Low erucic acid rapeseed oil
RBD Canola oil
RBD Rapeseed oil
Refined Canola oil
Refined Rapeseed oil
Technical Rapeseed oil

#### RICE BRAN OIL

Fractionated Rice Bran oil Hydrogenated Rice Bran oil Interesterified Rice Bran oil

#### SAFFLOWER OIL

Safflower-seed oil Fractionated Safflower oil Hydrogenated Safflower oil Interesterified Safflower oil Thistle-seed oil

#### SHEA BUTTER

Karite butter Karitenut butter Shea Butter oil Shea Butter olein Shea Butter stearin Sheanut butter

#### SOYA BEAN OIL

Aceite Crude Desgomado De Soya (S)

Aceite Crudo De Soya (S)

Aceite De Soya (S)

Crude Degummed Soya bean oil

Crude Degummed Soya bean oil

Crude Degummed Soya bean oil of Edible Grade

Crude Soya bean oil

Crude Soya bean oil

Crude Superdegummed Soya bean oil

Expelled Soya bean oil

Fractionated Soya bean oil

Genetically Modified Soya bean oil

Huile Brute De Soya (F)

Huile Brute De Soya Desgommee (F) Huile De Soya (F) Hydrogenated Soya bean oil Interesterified Soya bean oil RBD Soy oil RBD Soya bean oil Refined Soya oil Soya oil Soya bean oil

#### SUNFLOWER-SEED OIL

Crude Sunflower oil
Crude Sunflower-seed oil
Crude Sunflower-seed oil of Edible Grade
Fractionated Sunflower-seed oil
Genetically Modified Sunflower-seed oil
High Oleic Sun oil
Hydrogenated Sunflower-seed oil
Interesterified Sunflower-seed oil
Refined Sunflower-seed oil
Sun oil
Sunflower oil

#### **TALLOW**

"A" tallow
All Beef Packer tallow
All White tallow
Barso tallow
Beef tallow
Bleachable Fancy tallow
Bulk tallow
Choice White Grease
Choice White tallow
Crude tallow oil

Edible tallow Extra Fancy tallow

Fancy tallow

Feed Grade tallow

Fractionated tallow

Gannet tallow

Good Soap tallow

Government Certified Edible Beef tallow

High Energy Feed Fat Hydrogenated tallow

Inedible Beef tallow

Inedible tallow

Inedible Unbleached Technical tallow

Interesterified tallow Laundry Grade tallow

Low Grade tallow
Low Titre tallow
Mutton tallow
Poultry oil Prime tallow
Pure Beef tallow
Special tallow
Tallow oil
Technical Edible tallow
Technical tallow
Toilet Grade tallow
Top White tallow

#### **TUNG OIL**

China Wood oil Raw Tung oil Raw Wood oil Wood oil

Yellow Grease

#### PALM OIL

Bleached palm oil Crude palm oil (CPO) Fractionated palm oil Hydrogenated palm oil Interesterified palm oil Neutralized and bleached palm oil Neutralized palm oil NBD palm oil Palm fruit oil Palm mesocarp oil Red palm oil RBD palm oil RBD Sustainable palm oil Sustainable palm oil Technical palm oil Non-edible industrial grade palm oil

#### **PALM OLEIN**

Bleached palm olein Red palm olein Crude palm olein RBD palm olein Neutralized and bleached palm olein Palm liquid fraction Sustainable palm olein RBD Sustainable palm olein Palm superolein Hydrogenated palm olein

Fractionated palm olein
Interesterified palm olein
Neutralized palm olein
Neutralized bleached and deodorized (NBD) palm olein
Palm-based used cooking oil

#### **PALM STEARIN**

Crude palm stearin
RBD palm stearin
Neutralized and bleached palm stearin
Palm oil solid fraction
Sustainable palm stearin
RBD Sustainable palm stearin
Soft stearin
Hydrogenated palm stearin
Fractionated palm stearin
Interesterified palm stearin
Bleached palm stearin
Red palm stearin
Neutralized palm stearin
Neutralized bleached and deodorized
NBD palm stearin

#### PALM KERNEL OIL

Crude palm kernel oil (CPKO)
RBD palm kernel oil
Neutralized and bleached palm kernel oil
Sustainable palm kernel oil
RBD sustainable palm kernel oil
Hydrogenated palm kernel oil
Fractionated palm kernel oil
Interesterified palm kernel oil
Bleached palm kernel oil
Neutralized palm kernel oil
Neutralized bleached and deodorized (NBD) palm kernel oil

#### PALM KERNEL STEARIN

Crude palm kernel stearin
RBD palm kernel stearin
Neutralized and bleached palm kernel stearin
Palm kernel oil solid fraction
Sustainable palm kernel stearin
RBD Sustainable palm kernel stearin
Hydrogenated palm kernel stearin
Fractionated palm kernel stearin
Interesterified palm kernel stearin
Bleached palm kernel stearin Neutralized palm kernel stearin

Neutralized bleached and deodorized (NBD) palm kernel stearin

#### PALM KERNEL OLEIN

Crude palm kernel olein
RBD palm kernel olein
Fractionated palm kernel olein
Interesterified palm kernel olein
Bleached palm kernel olein
Neutralized palm kernel olein
Neutralized bleached and deodorized
NBD palm kernel olein
Palm kernel oil liquid fraction
Sustainable palm kernel olein
RBD Sustainable palm kernel olein
Hydrogenated palm kernel olein
Neutralized and bleached palm kernel olein

#### PALM FATTY ACID DISTILLATE (PFAD)

Palm oil fatty acid distillate Fatty acid distillate from palm oil Palm deodorizer distillate Hydrogenated palm fatty acid distillate (HPFAD) Distilled palm fatty acid distillate

#### PALM ACID OIL (PAO)

Acid oil from palm oil
Acid oil from palm oil chemical refining
Acidulated palm oil soap stock
Hydrogenated palm acid oil

#### PALM KERNEL FATTY ACID DISTILLATE (PKFAD)

Palm kernel oil fatty acid distillate Fatty acid distillate from Palm kernel oil Palm kernel deodorizer distillate Hydrogenated palm kernel fatty acid distillate (HPKFAD) Distilled palm kernel fatty acid distillate

#### PALM KERNEL ACID OIL (PKAO)

Acid oil from Palm kernel oil
Acid oil from Palm kernel oil chemical refining
Acidulated Palm kernel oil soap stock
Hydrogenated palm kernel acid oil

#### **PALM MID FRACTION**

Crude palm mid fraction
RBD palm mid fraction
Neutralized palm mid fraction
Neutralized and bleached palm mid fraction
Sustainable palm mid fraction
Hydrogenated palm mid fraction
Fractionated palm mid fraction
Interesterified palm mid fraction
Bleached palm mid fraction
Red palm mid fraction

#### HIGH FFA PALM OIL

High FFA crude palm oil
High FFA Technical palm oil
High FFA Non-edible Industrial Grade palm oil
Residue palm oil
Spent clay oil
Low grade palm oil

#### **ABBREVIATIONS**

The following abbreviations have been adopted in this Annex:

BP — British Pharmacopeia;

BSS — British Standard Specification;

FFA — Free Fatty Acid;

HE — High Erucic;

HEAR — High Erucic Acid Rapeseed;

LEAR — Low Erucic Acid Rapeseed;

NBD — Neutralized Bleached Deodorized;

PBSY — Prime Bleachable Summer Yellow;

RBD — Refined Bleached Deodorized;

RBDW — Refined Bleached Deodorized Winterized.

Note. Basic names are written in bold type (Roman and Italic), the other names are synonyms.

ANNEX 4

#### LIST OF CHEMICALS TO WHICH THE IBC CODE DOES NOT APPLY

Refer to Chapter 18 of the IBC Code, as amended by IMO resolutions MSC.460(101) and MEPC.318(74).

Russian Maritime Register of Shipping

Annexes to the Rules for the Classification and Construction of Chemical Tankers

FAI "Russian Maritime Register of Shipping" 8, Dvortsovaya Naberezhnaya, 191186, St. Petersburg, Russian Federation www.rs-class.org/en/