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**Committee of Experts on the Transport of Dangerous Goods  
and on the Globally Harmonized System of Classification  
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Forty-sixth session**

Geneva, 1 – 9 December 2014

Item 7 of the provisional agenda

**New proposals for amendments to the  
Model Regulations on the Transport of Dangerous Goods****Classification of seed cake****Transmitted by the expert from Germany<sup>1</sup>****Introduction**

1. The Model Regulations contain the following entries for SEED CAKE,
  - (a) UN 1386, with more than 1.5% oil and not more than 11% moisture; and
  - (b) UN 2217, with not more than 1.5% oil and not more than 11% moisture.
2. The transport of seed cake was discussed several times at IMO on the basis of several proposals for the transport of seed cake as maritime bulk transport according to the International Maritime Solid Bulk Cargo Code (IMSBC Code). The schedules of the IMSBC Code are based on the United Nations Recommendations classification and additionally differentiate between UN 1386 (a) mechanically expelled seeds, containing more than 10% of oil or more than 20% of oil and moisture combined and UN 1386 (b) solvent extractions and expelled seeds, containing not more than 10% of oil and when the amount of moisture is higher than 10%, not more than 20% of oil and moisture combined. The differentiation between UN 1386 (a) and UN 1386 (b) has been also incorporated in the International Maritime Solid Bulk Cargo Code (IMDG Code). Furthermore, the IMSBC Code contains a schedule for non-hazardous seed cake, dealing with the maritime bulk transport of seed cake not fulfilling the criteria for assignment to Division 4.2.

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

3. Germany came to the conclusion that the schedules for seed cake in the IMSBC Code should be reviewed to remove the inconsistencies and submitted proposals for amendments to the IMSBC Code to the IMO Sub-Committee on Carriage of Cargoes and Containers at its first session (CCC1) (Doc. CCC 1/5/2, CCC 1/5/3 and CCC 1/5/4). It became obvious that the name and the description make an unambiguous assignment difficult.

4. The present entries UN 1386 SEED CAKE and UN 2217 SEED CAKE do not correctly include whole seeds (soya beans, sunflower beans etc.), materials not related to seeds (citrus pulp) or extracted seeds that have not been shaped into "cakes" (bakery materials, meal, oily etc.). Thus, the shipping name does not describe all the types of oily vegetables and relevant derivatives that are being offered for shipment or will be offered for shipment in the future.

5. The classification of present entries is based on the description of the properties, in particular on the basis of content of oil or moisture. The requirements for safe transport are presently not verified by tests in accordance with Division 4.2 criteria.

6. A new name and description should be introduced in the Model Regulations to ensure that all dangerous oily vegetable cargoes are covered, irrespective of whether they are fresh and/or whole vegetables, processed vegetables (whatever be their production process, hot/cold extraction, pressure extraction, steam or solvent extraction). The new name and description should not refer to the oil or moist content; the classification of the cargoes should rely, as far as possible, on experimental data.

7. The two UN Nos 1386 and 2217 are assigned to Division 4.2 packing group III. There is no difference in the requirements for transport between the two entries, except for the packing instruction. P 003 is applicable to UN No. 1386 and P 002 is applicable to UN No 2217. The ratio of this assignment is questionable, as the less stringent packing instruction P 003 applies to the potentially more dangerous entry with the higher oil content. Consequently, there is no reason for distinguishing between the two UN Numbers, and one entry is sufficient. P 003 should be assigned to the new entry.

## Proposal

8. Replace the existing entries UN 1386 and UN 2217 with a new entry as follows:

(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
xxxx	OILY VEGETABLES OR OILY VEGETABLE PROCESSING BY- PRODUCTS	4.2		III	29 142 223	0	E0	P003 IBC08 LP02	PP20 B3, B6		

## Annex

### Data sheet to be submitted to the United Nations for new or amended classification of substances

Submitted by **Germany**

Date **2014-07-29**

Supply all relevant information including sources of basic classification data. Data should relate to the product in the form to be transported. State test methods. Answer all questions – if necessary state "not known" or "not applicable" – if data is not available in the form requested, provide what is available with details. Delete inappropriate words.

#### Section 1 Substances identity

- 1.1 Chemical name none
- 1.2 Chemical formula none
- 1.3 Other names/synonyms whole seeds (soya beans, sunflower beans etc.), materials not related to seeds (citrus pulp) or extracted seeds that have not been shaped into "cakes"
- 1.4.1 UN Number new 1.4.2 CAS number none
- 1.5 Proposed classification for the Recommendations
- 1.5.1 Proper shipping name (3.1.2) OILY VEGETABLES OR OILY VEGETABLE PROCESSING BY-PRODUCTS
- 1.5.2 Class/division 4.2 subsidiary risk(s) none  
packing group III
- 1.5.3 Proposed special provisions, if any 29, 223
- 1.5.4 Proposed packing instruction(s) P002 PP20

#### Section 2 Physical properties

- 2.1 Melting point or range not known
- 2.2 Boiling point or range not known
- 2.3 Relative density at:
- 2.3.1 15 °C not known
- 2.3.2 20 °C not known
- 2.3.3 50 °C not known
- 2.4 Vapour pressure at:
- 2.4.1 50 °C not applicable
- 2.4.2 65 °C not applicable
- 2.5 Viscosity at 20 °C not known m<sup>2</sup>/s

- 2.6 Solubility in water at 20 °C not known g/100 ml
- 2.7 Physical state at 20 °C (2.2.1.1) solid
- 2.8 Appearance at normal carriage temperatures, including colour and odour not known
- 2.9 Other relevant physical properties

### Section 3 Flammability

- 3.1 Flammable vapour
  - 3.1.1 Flash point (2.3.3) not applicable closed cup
  - 3.1.2 Is combustion sustained? (2.3.1.2) not applicable
- 3.2 Autoignition temperature not known
- 3.3 Flammability range (LEL/UEL) not applicable
- 3.4 Is the substance a flammable solid? (2.4.2) no
  - 3.4.1 If yes, give details ...

### Section 4 Chemical properties

- 4.1 Does the substance require inhibition/stabilization or other treatment such as nitrogen blanket to prevent hazardous reactivity? no

If yes, state

- 4.1.1 Inhibitor/stabilizer used
- 4.1.2 Alternative method
- 4.1.3 Time effective at 55 °C
- 4.1.4 Conditions rendering it ineffective
- 4.2 Is the substance an explosive according to paragraph 2.1.1? (2.1) no
  - 4.2.1 If yes, give details
- 4.3 Is the substance a desensitized explosive? (2.4.2.4) no
  - 4.3.1 If yes, give details
- 4.4 Is the substance a self-reactive substance? (2.4.1) no

If yes, state

- 4.4.1 exit box of flow chart

What is the self-accelerating decomposition temperature (SADT) for a 50 kg package? ..°C

- Is the temperature control required? (2.4.2.3.4) yes / no
  - 4.4.2 proposed control temperature for a 50 kg package ... °C
  - 4.4.3 proposed emergency temperature for a 50 kg package ... °C
- 4.5 Is the substance pyrophoric? (2.4.3) no
  - 4.5.1 If yes, give details
- 4.6 Is the substance liable to self-heating? (2.4.3) yes

## 4.6.1 If yes, give details

May self-heat slowly and, if wet or containing an excessive proportion of unoxidized oil, ignite spontaneously.

4.7 Is the substance an organic peroxide (2.5.1) no

If yes state

4.7.1 exit box of flow chart

What is the self-accelerating decomposition temperature (SADT) for a 50 kg package? ... °C

Is the temperature control required? (2.5.3.4.1) yes / no

4.7.2 proposed control temperature for a 50 kg package ... °C

4.7.3 proposed emergency temperature for a 50 kg package ... °C

4.8 Does the substance in contact with water emit flammable gases (2.4.4) no

4.8.1 If yes, give details ...

4.9 Does the substance have oxidizing properties (2.5.1) no

4.9.1 If yes, give details ...

4.10 Corrosivity (2.8) to:

4.10.1 mild steel ... none

4.10.2 aluminium ... none

4.10.3 other packing materials none

(specify) no ... mm/year at ...

... ... mm/year at ...

4.11 Other relevant chemical properties ... not known ...

## Section 5 Harmful biological effects

5.1 LD 50, oral (2.6.2.1.1) not known mg/kg Animal species ...rat..

5.2 LD 50, dermal (2.6.2.1.2) not known mg/kg Animal species ...

5.3 LC 50, inhalation (2.6.2.1.3) not known mg/litre Exposure time ... hours  
or ..... ml/m<sup>3</sup> Animal species ...

5.4 Saturated vapour concentration at 20 °C (2.6.2.2.4.3) ..... ml/m<sup>3</sup>

5.5 Skin exposure (2.8) results

Exposure time ... not known hours/minutes

Animal species ...

5.6 Other data ...

5.7 Human experience ... not known

**Section 6 Supplementary information**

- 6.1 Recommended emergency action
  - 6.1.1 Fire (include suitable and unsuitable extinguishing agents)  
Batten down
  - 6.1.2 Spillage
- 6.2 Is it proposed to transport the substance in:
  - 6.2.1 Bulk Containers (6.8) no
  - 6.2.2 Intermediate Bulk Containers (6.5) yes
  - 6.2.3 Portable tanks (6.7) noIf yes, give details in Sections 7. and/or 8.

**Section 7 Bulk containers (only complete if yes in 6.2.1)**

- 7.1 Proposed type(s)

**Section 8 Intermediate bulk containers (IBCs)**

(only complete if yes in 6.2.2)

- 8.1 Proposed type(s) IBC08, B3, B6

**Section 9 Multimodal tank transport (only complete if yes in 6.2.3)**

Description of proposed tank (including IMO tank type if known)

- 9.2 Minimum test pressure
  - 9.3 Minimum shell thickness
  - 9.4 Details of bottom openings, if any
  - 9.5 Pressure relief arrangements
  - 9.6 Degree of filling
  - 9.7 Unsuitable construction materials
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