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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

Twenty-eighth session, 28 November-7 December 2005  
Item 10 of the provisional agenda

**GUIDING PRINCIPLES FOR THE MODEL REGULATIONS**

IBC authorizations for inclusion in the Guiding Principles

Transmitted by the expert from the United States of America

**Introduction**

1. The expert from the United States of America has reviewed the paper entitled “Guiding Principles for the Model Regulations” submitted by the expert from the United Kingdom (ST/SG/AC.10/C.3/2005/23). The Guiding Principles are intended to provide the Sub-Committee with a framework for amendments to be made to the Model Regulations in a rational and consistent manner. The expert from the United Kingdom expressed the desire that work on the Guiding Principles will progress, and that members of the Sub-Committee provide contributions.

2. During a review of the Guiding Principles the expert from the United States of America observed that no guidance is provided for the assignment of IBC Packing Instructions. It would be beneficial to include such guidance in the Guiding Principles. When the IBC packing instructions were developed and adopted into the Model regulations a rationalized approach was used for the assignments. It is proposed that this be incorporated in the Guiding Principles. A listing of the current IBC Packing Instruction assignments is provided in Annex 1 (see ST/SG/AC.10/C.3/2005/52/Add.1). Annex 2 (see ST/SG/AC.10/C.3/2005/52/Add.1) provides a listing of substances not allowed in IBCs. Members of the Sub-Committee are invited to review the Annexes and the proposed rationalized approach for the assignment of IBC packing instructions and provide comments as appropriate. IBC Special Provisions have not yet been considered due to time constraints, however the expert from the United States is willing to develop a rationalized approach for their application to be considered at a future session.

**Proposal**

Add the following guidance concerning the assignment of IBC Packing Instructions to Part 4 of the Guiding Principles:

**Rationalized approach for the assignment of IBC Packing Instructions to substances of Classes 3, 4, 5, 6, 8, and 9**General provisions:

The following are not allowed in IBCs:

- Explosives of Class 1 (other than UN0082, UN0241, UN0331 and UN0332)
- Desensitized explosives of Division 4.1
- Pyrophoric materials of Division 4.2
- Gases of Class 2
- Radioactive Materials of Class 7
- Packing Group I Liquids of any Class or Division

IBC Packing instruction assignment table:

The following table indicates the appropriate IBC Packing Instruction assignment for substances based on their Class or Division, Special Properties, Subsidiary Risk, and Packing Group. A dash in the subsidiary risk column indicates that the IBC Instruction is assigned irrespective of the material's subsidiary risk unless otherwise stated in the Special Properties column. The unique physical and chemical properties of a substance must be considered when determining an appropriate IBC assignment.

| <b>IBC packing instruction assignments</b> |  |                        |           |                        |
|--|--|------------------------|-----------|------------------------|
| <b>Class or Division</b>                   | <b>Special properties</b>  | <b>Subsidiary risk</b> | <b>PG</b> | <b>IBC instruction</b> |
| 1  | -Explosive, blasting, type B or E in Division 1.1D (UN0082, UN0241)<br>-Explosive, blasting, type B or E in Division 1.5D (UN0331, UN0332) | -                      | -         | IBC100                 |
| 3  |  | -                      | II        | IBC02                  |
|  |  | -                      | III       | IBC03                  |
| 4.1  | Sulphides and Hydrides   | -                      | II        | IBC04                  |
|  | Wetted powders, n.o.s. substances with a subsidiary risk, and solids containing a flammable liquid (UN3175)                                | -                      | II        | IBC06                  |
|  | 4.1 PG II materials other than those identified above  | -                      | II        | IBC08                  |
|  | Fused calcium resinate (UN1314) and Metal hydrides, flammable, n.o.s. (UN3182)   | -                      | III       | IBC04                  |
|  | Resinates and n.o.s. substances with a subsidiary risk   | -                      | III       | IBC06                  |
|  | 4.1 PG III materials other than those identified above   | -                      | III       | IBC08                  |

| IBC packing instruction assignments |  |                 |     |                 |
|-------------------------------------|--|-----------------|-----|-----------------|
| Class or Division                   | Special properties   | Subsidiary risk | PG  | IBC instruction |
| 4.2                                 | Liquids  | -               | II  | IBC02           |
|                                     | Solids with a subsidiary risk  | -               | II  | IBC05           |
|                                     | Solids without a subsidiary risk   | None            | II  | IBC06           |
|                                     | Fish meal, unstabilized (UN1374) and Organic pigments, self-heating (UN3313)   | -               | II  | IBC08           |
|                                     | Liquids  | -               | III | IBC02           |
|                                     | Maneb (UN2210)   | -               | III | IBC06           |
|                                     | Solids   | -               | III | IBC08           |
| 4.3                                 | Alkali metals, (Caesium, Lithium, Rubidium, Sodium, Potassium), Calcium carbide, and Lithium nitride   | -               | I   | IBC04           |
|                                     | Liquids  | -               | II  | IBC01           |
|                                     | Hydrides, Sulphides, and Organometallic substance, solid, water-reactive (UN3395)  | -               | II  | IBC04           |
|                                     | Solids with a flammable subsidiary risk  | 4.1             | II  | IBC04           |
|                                     | Solids with a subsidiary risk other than flammability  | Other than 4.1  | II  | IBC05           |
|                                     | Solids without a subsidiary risk   | None            | II  | IBC07           |
|                                     | Liquids  | -               | III | IBC02           |
|                                     | Solids with a flammable subsidiary risk  | 4.1             | III | IBC06           |
|                                     | Solids without a flammable subsidiary risk   | Other than 4.1  | III | IBC08           |
| 5.1                                 | Sodium peroxide (UN1504) and Oxidizing solid, n.o.s. (UN1479)  | -               | I   | IBC05           |
|                                     | Potassium peroxide (UN1491), Potassium superoxide (UN2466), and Sodium superoxide  | -               | I   | IBC06           |
|                                     | <b>Liquid:</b><br>-n.o.s. substances with a subsidiary risk -Nitrites, inorganic, aqueous solution, n.o.s. (UN3219)                              | -               | II  | IBC01           |
|                                     | <b>Liquid:</b><br>-liquids other than those assigned to IBC01  | -               | II  | IBC02           |
|                                     | <b>Solid:</b><br>-chlorates and chlorites (n.o.s. substances only)<br>-permanganates<br>-peroxides<br>- n.o.s. substances with a subsidiary risk | -               | II  | IBC06           |
|                                     | <b>Solid:</b><br>-nitrates and nitrites<br>-chlorates and chlorites (other than n.o.s substances)<br>-solids other than those assigned to IBC06  | -               | II  | IBC08           |
|                                     | Liquids  | -               | III | IBC02           |
|                                     | Solids   | -               | III | IBC08           |

| <b>IBC packing instruction assignments</b>  |   |                        |           |                        |
|---|---|------------------------|-----------|------------------------|
| <b>Class or Division</b>  | <b>Special properties</b>   | <b>Subsidiary risk</b> | <b>PG</b> | <b>IBC instruction</b> |
| 6.1   | Solids without a subsidiary risk other than those evolving vapors that are toxic (i.e. Cyanogen bromide) or irritating (i.e. Tear gas substance, solid, n.o.s.) | None                   | I         | IBC07                  |
|   | Liquids   | -                      | II        | IBC02                  |
|   | Solids  | -                      | II        | IBC08                  |
|   | Liquids   | -                      | III       | IBC03                  |
|   | Solids  | -                      | III       | IBC08                  |
| 6.2   | Clinical waste, unspecified, n.o.s. (UN3291)  | -                      | II        | IBC620                 |
| 8   | Solids without a subsidiary risk  | None                   | I         | IBC07                  |
|   | Liquids with a self-heating subsidiary risk   | 4.2                    | II        | Not Allowed            |
|   | Liquids other than those with a self-heating subsidiary risk  | All except 4.2         | II        | IBC02                  |
|   | Solids containing corrosive liquid, n.o.s. (UN3244)   | -                      | II        | IBC05                  |
|   | Solids with a self-heating, water-reactive or oxidizing subsidiary risk   | 4.2, 4.3 or 5.1        | II        | IBC06                  |
|   | Liquids   | -                      | III       | IBC03                  |
|   | Solids  | -                      | III       | IBC08                  |
| 9<br><i>Note: Class 9 IBC authorizations should be considered based on the specific properties of the material.</i> | Elevated temperature liquid (UN3257)  | -                      | III       | IBC01                  |
|   | Liquids   | -                      | III       | IBC03                  |
|   | Solids  | -                      | III       | IBC08                  |

The following substances are allowed in IBCs only on the basis of an approval by the competent authority:

| <b>Substances assigned IBC99</b> |  |                  |           |                        |
|----------------------------------|--|------------------|-----------|------------------------|
| <b>UN#</b>                       | <b>Name</b>  | <b>Class/Div</b> | <b>PG</b> | <b>Subsidiary risk</b> |
| 3286                             | FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.   | 3                | II        | 6.1 8                  |
| 2359                             | DIALLYLAMINE   | 3                | II        | 6.1 8                  |
| 3230                             | SELF-REACTIVE SOLID TYPE F   | 4.1              |           |                        |
| 3229                             | SELF-REACTIVE LIQUID TYPE F  | 4.1              |           |                        |
| 3208                             | METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.   | 4.3              | I         |                        |
| 2813                             | WATER-REACTIVE SOLID, N.O.S.   | 4.3              | I         |                        |
| 3132                             | WATER-REACTIVE SOLID, FLAMMABLE, N.O.S.  | 4.3              | I         | 4.1                    |
| 3375                             | AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives | 5.1              | II        |                        |
| 2588                             | PESTICIDE, SOLID, TOXIC, N.O.S.  | 6.1              | I         |                        |
| 3288                             | TOXIC SOLID, INORGANIC, N.O.S.   | 6.1              | I         |                        |
| 2811                             | TOXIC SOLID, ORGANIC, N.O.S.   | 6.1              | I         |                        |
| 2930                             | TOXIC SOLID, FLAMMABLE, ORGANIC, N.O.S.  | 6.1              | I         | 4.1                    |
| 3290                             | TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.  | 6.1              | I         | 8                      |
| 2928                             | TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.  | 6.1              | I         | 8                      |
| 2668                             | CHLOROACETONITRILE   | 6.1              | II        | 3                      |
| 2921                             | CORROSIVE SOLID, FLAMMABLE, N.O.S.   | 8                | I         | 4.1                    |
| 2923                             | CORROSIVE SOLID, TOXIC, N.O.S.   | 8                | I         | 6.1                    |
| 3245                             | GENETICALLY MODIFIED MICROORGANISMS  | 9                |           |                        |