

澳門特別行政區**REGIÃO ADMINISTRATIVA ESPECIAL
DE MACAU****行政長官辦公室****GABINETE DO CHEFE DO EXECUTIVO****第 12/2021 號行政長官公告****Aviso do Chefe do Executivo n.º 12/2021**

國際海事組織海上安全委員會於二零一八年五月二十四日透過第MSC.442 (99) 號決議通過了《國際海運危險貨物規則》（《國際危規》）修正案，該修正案已於二零二零年一月一日在國際法律秩序上生效，包括對澳門特別行政區生效；

Considerando que, em 24 de Maio de 2018, o Comité de Segurança Marítima da Organização Marítima Internacional (OMI), através da resolução MSC.442 (99), adoptou emendas ao Código Marítimo Internacional das Mercadorias Perigosas (Código IMDG), e que tais emendas entraram em vigor na ordem jurídica internacional, incluindo a Região Administrativa Especial de Macau, em 1 de Janeiro de 2020;

基於此，行政長官根據第3/1999號法律《法規的公佈與格式》第五條（一）項和第六條第一款的規定，命令公佈國際海事組織海上安全委員會透過第MSC.442 (99) 號決議通過的上指修正案的中文文本和英文正式文本。

O Chefe do Executivo manda publicar, nos termos da alínea 1) do artigo 5.º e do n.º 1 do artigo 6.º da Lei n.º 3/1999 (Publicação e formulário dos diplomas), as referidas emendas adoptadas pelo Comité de Segurança Marítima da OMI, através da resolução MSC.442 (99), na sua versão em língua chinesa e no seu texto autêntico em língua inglesa.

《國際危規》全新綜合文本已透過第34/2020號行政長官公告公佈於二零二零年十二月九日第五十期《澳門特別行政區公報》第二組副刊。

O novo texto consolidado do Código IMDG encontra-se publicado no Suplemento do *Boletim Oficial da Região Administrativa Especial de Macau*, II Série, n.º 50, de 9 de Dezembro de 2020, através do Aviso do Chefe do Executivo n.º 34/2020.

二零二一年三月二十六日發佈。

Promulgado em 26 de Março de 2021.

行政長官 賀一誠

O Chefe do Executivo, *Ho Iat Seng*.

第 MSC.442 (99) 號決議
(2018 年 5 月 24 日通過)

國際海運危險貨物規則 (國際危規) 修正案

海上安全委員會，

憶及《國際海事組織公約》關於第 28 (b) 條本委員會的職能，

還憶及第 MSC.122 (75) 號決議通過了《國際海運危險貨物規則》 (“國際危規”)，根據《1974 年國際海上人命安全公約》 (“本公約”) 第 VII 章規定已成為強制性規則，

進一步憶及本公約第 VIII (b) 條和第 VII 章第 1.1 條關於修訂《國際危規》的修正程序，

在其第九十九屆會議上，審議了按照本公約第 VIII (b) (i) 條要求提出和散發的《國際危規》修正案，

- 1 根據本公約第 VIII (b) (iv) 條，通過了《國際危規》修正案，修正案文本列於本決議的附件；
- 2 根據本公約第 VIII (b) (vi (2) (bb) 條，決定修正案將於 2019 年 7 月 1 日被視為被接受，除非在此日期之前，有超過三分之一的公約締約國政府或合計商船噸位數不少於世界商船總噸位 50% 的締約國政府已經對修正案提出反對意見；
- 3 提請本公約締約國注意，根據公約第 VIII (b) (vii) (2) 條，修正案將按照上述第 2 款被接受後，於 2020 年 1 月 1 日生效；
- 4 同意本公約締約國可以在自願的基礎上自 2019 年 1 月開始實施上述

修正案的全部或部分；

5 要求秘書長遵照本公約第 VIII (b) (v) 條，將本決議及其附件中的修正案文本的核正無誤副本發送給本公約締約方；

6 還要求秘書長將本決議及其附件的副本發送給非本公約締約方的本組織成員。

附件

國際海運危險貨物規則（國際危規）修正案 （修正案 39-18）

目錄

插入新的一行“2.0.6 含未另列明危險貨物物品的分類。”

第 2.8 章內容修改如下：

“2.8.1 定義，一般規定和特性

2.8.2 一般分類規定

2.8.3 物質和混合物包裝類的劃分

2.8.4 可供選擇的混合物包裝類劃分方法：分層法

2.8.5 禁止運輸的物質”

第 4.2.6 章副標題修改為“使用公路罐車和公路氣體單元車輛的補充規定”。

第 5.3 章標題修改為“貨物運輸組件和散裝容器的標牌和標記”。

第 5.3.2 章副標題修改為“標記”。

刪除第 6.1 章標題中的“（適用 6.2 類物質的除外）”。

第 6.8 章標題修改為“公路罐車和公路氣體單元車輛規定”。

第 1 部分

總則、定義和培訓

第 1.1 章

總則

1.1.2 公約

1.1.2.2 國際防止船舶造成污染公約（MARPOL 公約）

附則 III

防止海運包裝有害物質污染規則

在現有標題下，在第 1 條前新增章節標題“第 1 章 – 總則”。

新增第 1 條，並增加相應的腳註，內容如下：

“第 1 條

定義

就本附錄而言：

- 1 有害物質係指在《國際危規》中被確定為海洋污染物或滿足本附則附錄中標準的物質。
- 2 包裝形式係指《國際危規》中對有害物質規定的盛裝形式。
- 3 審核係指為獲取和客觀地鑑定審核證據以確定審核標準滿足程度的系統、獨立且有文件記錄的過程。
- 4 審核機制係指本組織根據其制定的導則建立的“國際海事組織會員國審核機制”。

5 履約規則係指本組織以第 A.1070 (28) 號大會決議通過的《國際海事組織文書實施規則》(履約規則)。

6 審核標準係指《履約規則》。”

後續條目在本節中相應地重新編號。

在重新編號的第 2 條“適用範圍”中，刪除第 1 段中第 1.1 分段和第 1.2 分段。現有的第 2 段、第 3 段、第 4 段和第 5 段相應地重新編號。

第 2 條至第 8 條重新編號為第 3 條至第 9 條。

在附則 III 附錄(包裝形式的有害物質判定標準)前新增第 2 章，並增加相應腳註，內容如下：

“第 2 章 – 對本附則各項規定的符合性驗證

第 10 條

適用範圍

締約國須在執行本附則中所包含的義務和責任時使用《履約規則》的規定。

第 11 條

符合性驗證

1 各締約國須按照審核標準接受組織的定期審核，以驗證本附則的符合性和執行情況。

2 本組織秘書長須依據本組織制定的導則負責管理審核機制。

3 各締約國須依據本組織制定的導則，負責協助開展行動計劃的

審核和實施，以處理所發現問題。

4 所有締約國的審核須：

- .1 依據本組織秘書長制定的總體計劃進行，並慮及本組織制定的導則；和
- .2 定期開展，並慮及本組織制定的導則。”

附則 III 附錄

包裝形式的有害物質判定標準

附錄的序號如下，用相應的腳註代替：

“就本附錄而言，滿足下列任一標準的物質（除放射性材料外）被判定為有害物質。”

第 1.2 章

定義、計量單位和縮寫

1.2.1 定義

下列定義修改內容如下：

動物材料：“動物食料或飼料”替換為“源於動物的食料或飼料”。

GH：“第六修訂版”替換為“第七修訂版”。
“ST/SG/AC.10/30/Rev.6”替換為“ST/SG/AC.10/30/Rev.7”。

液體：腳註中，“*ECE/TRANS/225 (Sales No. E.14.VIII.1)*”替換為“*ECE/TRANS/257 (Sales No. E.16.VIII.1)*”。

試驗和標準手冊：在“ST/SG/AC.10/11/Rev.6”插入“和 Amend.1”。

增加如下新定義：

“*IMO 9 型罐櫃*係指用於運輸第 2 類壓縮氣體的公路氣體單元車輛，各單元通過一個歧管相互連接，永久地連接到底盤上，該罐櫃上配備氣體運輸必需的輔助設備和結構設備。單位為氣瓶、管子和氣瓶束，用於運輸 2.2.1.1 中定義的氣體。”

1.2.3 縮略語一覽表

在 EmS 定義的“船舶載運危險貨物應急反應措施”前增加“修訂的”。

第 1.3 章

培訓

1.3.1 岸上人員的培訓

1.3.1.5 根據《IMDG 規則》對涉及危險貨物運輸的岸上人員推薦的培訓要求

在表格中，職責 3 “對危險貨物加標記、標誌和標牌”對應的“特定培訓要求”列的第一縮進項中“風險”替換為“危險”。

1.3.1.6 描述危險貨物運輸培訓中可能包括的《IMDG 規則》章節或其他相關文件的指示性表格

表格中的列項“貨物運輸組件裝載指南”替換為“CTU 規則”。

1.3.1.7 可能適用於具體職責培訓的有關規則和出版物

1.3.1.7.2 “經修正的”替換為“修訂的”。

第 1.4 章

保安規定

1.4.3 對後果嚴重危險貨物的規定

1.4.3.1.5 “風險”替換為“危險”。

1.4.3.2 對後果嚴重危險貨物的具體安全規定

1.4.3.2.1 在末尾插入註釋：

“註釋：除本規則的保安規定，主管當局可基於除危險貨物運輸安全以外的原因，實施進一步的保安規定。為了不影響不同炸藥安全標誌的國際和多式聯運，建議這些標誌格式設計符合國際統一標準（例如歐盟委員會指令 2008/43/EC）。”

第 1.5 章

放射性材料的一般性規定

1.5.5 具有其他危險性的放射性材料

1.5.5.1 “風險”替換為“危險”。

第 2 部分 分類

第 2.0 章 序言

2.0.0 責任

2.0.0.2 “風險”替換為“危險”。

2.0.1 類別、小類和包裝類

2.0.1.5 “風險”替換為“危險”。

2.0.1.6 “風險”替換為“危險”。

2.0.2 聯合國編號和正確運輸名稱

2.0.2.2 “風險”替換為“危險”。

2.0.2.5.3 “風險”替換為“危險”。

2.0.2.10 “風險”替換為“危險”。

2.0.3 具有多種危險性的物質、混合物和溶液的分類（危險性優先順序）

2.0.3.1 第一句末，增加“或為含有未另列明的危險貨物的物品指定適當的條目（UN 3537 至 UN 3548，見 2.0.6）”。

2.0.4 樣品運輸

2.0.4 增加新條款 2.0.4.3 如下：

“2.0.4.3 用於試驗目的的含能材料的樣品

2.0.4.3.1 帶有《試驗和標準手冊》附錄 6（甄別程序）表 A6.1 和/或 A6.3 中所列官能團的有機物質樣品，如適用 4.1 類，可按 UN 3224（C 型自反應固體）或 UN 3223（C 型自反應液體）運輸，條件是：

- .1 樣品不含任何：
 - 已知爆炸物；
 - 試驗中呈現爆炸效應的物質；
 - 為產生實際爆炸效果或煙火效果設計的化合物；或
 - 由目標爆炸物的合成前體構成的化合物；
- .2 對於含有機材料的第 5.1 類無機氧化性物質的混合物、複合物或鹽類，無機氧化性物質的濃度為：
 - 按質量計低於 15%，如劃定為 I 類包裝（高度危險）或 II 類包裝（中度危險）；或
 - 按質量計低於 30%，如劃定為 III 類包裝（低度危險）；
- .3 根據現有數據無法做出更準確的分類；
- .4 樣品未與其他貨物包裝在一起；以及

- .5 如適用，樣品根據 4.1.4.1 中的包裝導則 P520 和特殊包裝規定 PP94 或 PP95 包裝。

2.0.5 廢棄物運輸

增加新條款 2.0.6 如下：

“2.0.6 含未另列明危險貨物物品的分類

註：對於那些沒有現有正式運輸名稱的物品，並且只含有《危險貨物一覽表》7a 列規定的限量允許量以內的危險貨物，見 UN 3363 和第 3.3 章的特殊規定 301。

2.0.6.1 含有危險貨物的物品，可以按他們含有的危險貨物的正確運輸名稱，按照本規則其他條款進行分類，或依據本節進行分類。本節“物品”是指含有一種或多種危險貨物（或殘餘物）的機器、設備或其他裝置，危險貨物（或殘餘物）是物品的一個組成部分，對其運作是必要的，不能為運輸目的而被移走。內包裝不是物品。

2.0.6.2 這些物品可能另外包括電池組。除前期製造的原型電池組或包括不超過 100 個的小批量電池組外，作為物品一部分的鋰電池組，須被證明是滿足《試驗和標準手冊》第三部分 38.3 段的測試要求的類型。如果安裝在物品中的鋰電池組損壞或有缺陷，該電池組應當被移除。

2.0.6.3 本節不適用於在第 3.2 章《危險貨物一覽表》中已存在更具體正確運輸名稱的物品。

2.0.6.4 本節不適用於物品中含有的第 1 類、第 6.2 類、第 7 類或放射性材料的危險貨物。

2.0.6.5 含有危險貨物的物品，在適用的情況下，須對物品中含有的每種危險貨物使用 2.0.3.6 危險性優先順序表，按照存在的危害性確定適當的分類。如果物品中包含第 9 類的危險貨物，則該物品中存在的所有其他危險貨物都須被認為具有較高的危險性。

2.0.6.6 副危險須代表該物品所包含的其他危險貨物所構成的主要危險。當該物品中只有一種危險貨物時，如果有的話，副危險須是《危險貨物一覽表》第 4 欄中確定的副危險。如果物品種包含不止一種危險貨物，並且在運輸過程中可能會彼此發生危險的反應，每一種危險貨物須被單獨密封（見 4.1.1.6）。”

第 2.1 章

第 1 類 – 爆炸品

2.1.1 定義和一般規定

2.1.1.1.3 刪除一個逗號，中文翻譯不受影響。

2.1.1.4 危險性分類

1.6 下的註中，“風險”替換為“危險”。

2.1.2 配裝類和分類代碼

2.1.2.2 配裝類和分類代碼

表格第 1 列中，配裝類 L 行，“風險”替換為“危險”。

2.1.3 分類程序

2.1.3.4 從第 1 類中排除

2.1.3.4.2.5 註 2 中，“風險”（risk）替換為“危險”。

2.1.3.5 煙花危險性分類的確定

2.1.3.5.1.1 “當按照《試驗和標準手冊》附錄 7 進行 HSL 閃光成分測試，給出的結果為陽性時”被替換為“含有閃光成分（見 2.1.3.5.5 的註 2）”。

2.1.3.5.5 修改註 2 如下：

“註 2：本表中的“閃光成分”係指粉末狀的煙火物質，或在煙花中用來產生瀑布效果的煙火單元，或產生聲響效果或用作爆炸藥，或彈射藥，除非：

- (1) 在《試驗和標準手冊》附錄 7 中，對 0.5 克的煙火物質的 HSL 閃光成分試驗的壓力上升的時間被證明超過了 6 毫秒；或
- (2) 在《試驗和標準手冊》附錄 7 中，煙火物質在美國閃光成分試驗中給出負面的“-”結果。”

在表中，修改“瀑布”條目如下：對於分類 1.1G，將“說明”下的條目修改為“含有閃光成分，不管試驗系列 6（見 2.1.3.5.1.1）的結果如何”。對於分類 1.3G，將“說明”下的條目修改為“不含閃光成分”。

第 2.2 章

第 2 類 – 氣體

2.2.2.3 第 2.3 類 有毒氣體

在註中，“風險”替換為“危險”。

2.2.3 氣體混合物

2.2.3.3 在第一句中，“風險”替換為“危險”。

第 2.3 章

第 2 類 – 易燃液體

2.3.2 包裝類的確定

2.3.2.1 “風險”替換為“危險”。

2.3.2.1.1 “風險”替換為“危險”。

2.3.2.1.2 “風險”替換為“危險”（兩次）。

2.3.2.2 在第.4 分段中，“30 升”替換為“450 升”。

2.3.2.5 2.3.2.5 條款替換如下：

“2.3.2.5 黏性液體，其：

- 閃點等於或高於 23°C，且小於或等於 60°C；
- 不具有毒性或腐蝕性；
- 不是環境有害物質；或者是環境有害物質，裝在單一包裝或組合包裝中運輸，每個單一包裝或內

包裝的淨容量小於等於 5 升，且包裝符合第 4.1.1.1 條、第 4.1.1.2 條、第 4.1.1.4 至 4.1.1.8 條的一般規定；

- 所含硝化纖維素不到 20%，且該硝化纖維素所含的氮元素按乾質量計不超過 12.6%；和
- 被包裝在容積不超過 450 升的容器中。

在下列情況下，不適用本規則第 4.1 章、第 5.2 章和第 6.1 章關於標註、標誌和包裝試驗的規定：

- .1 溶劑分離試驗中（見聯合國《試驗和標準手冊》第 III 部分 32.5.1），溶劑分離層的高度低於總高度的 3%；以及
- .2 黏度試驗中（見聯合國《試驗和標準手冊》第 III 部分 32.4.3）噴嘴直徑為 6 毫米時物質的流出時間等於或大於：
 - .1 60 秒；或
 - .2 40 秒，如果該黏性物質所含第 3 類物質不到 60%。

在運輸文件中須包括以下聲明：“按照《IMDG 規則》2.3.2.5 運輸”（見 5.4.1.5.10）。”

第 2.4 章

第 4 類 – 易燃固體；易自燃物質；遇水放出易燃氣體的物質

2.4.0 緒註

在緒註中，“風險”替換為“危險”。

2.4.2.3.2 自反應物質的分類

2.4.2.3.2.2 第二句中，“風險”替換為“危險”。

2.4.2.3.2.3 在第一段結尾，增加一個新的句子如下：

“4.1.4.2 包裝導則 IBC520 和 4.2.5.2.6 可移動罐櫃導則 T23 中列出的配製品，如適用，也可採用同樣的控制和應急溫度，按照 4.1.4.1 包裝導則 P520 的包裝方法 OP8 進行包裝運輸。”

並在表格中，插入一個新的條目如下：

| | | | | | |
|------|-----------------------------|------------------|-----|--|------|
| 3227 | 硫代磷酸，O-[(氰苯基亞甲基)氮烷基]O，O-二乙酯 | 82-91 (z 異構體) | OP8 | | (10) |
|------|-----------------------------|------------------|-----|--|------|

備註：

在表後的備註（2）中，“風險”替換為“危險”。

在備註（9）後，增加一個新的備註（10）如下：

“（10） 該條目適用於特定濃度範圍內的（Z）異構體與正丁醇的技術混合物。”

2.4.2.3.3 自反應物質的分類原則

2.4.2.3.3.2 在第.2 分段和第.3 分段中，“風險”替換為“危險”。

2.4.2.5 第 4.1 類聚合性物質及其混合物（穩定的）

2.4.2.5.2 在末尾增加如下新的註：

“註：符合聚合物質標準，並列入第 1 至 8 類的物質，要滿足第 3.3 章特殊規定 386 的要求。”

第 2.5 章

第 5 類 – 氧化性物質和有機過氧化物

2.5.2 第 5.1 類 – 氧化性物質

註 對現有的註重新編號為註 1，並增加新的註 2 如下：

“註 2：作為例外，固體硝酸銨基化肥須按照《試驗和標準手冊》第三部分第 39 節所述的程序進行分類。”

2.5.3 第 5.2 類 – 有機過氧化物

2.5.3.2 有機過氧化物的分類

2.5.3.2.3 第二句中，“風險”替換為“危險”。

2.5.3.2.4 在註的末尾，增加一個新句子如下：

“4.1.4.2 包裝導則 IBC520 和 4.2.5.2.6 可移動罐櫃導則 T23 中列出的配製品，如適用，也可採用同樣的控制和應急溫度，按照 4.1.4.1 包裝導則 P520 的包裝方法 OP8 進行包裝運輸。”

在表頭最後一列，“風險”替換為“危險”。在表中，插入如下新條目：

| | | | | | | | | | | |
|------|---------------------|---------------|--|-----|--|--|-----|-----|-----|--|
| 3109 | 1-苯乙基過氧化氫 | ≤38 | | ≥62 | | | OP8 | | | |
| 3116 | 雙-(4-叔丁基環己基)過氧化二碳酸酯 | ≤42 (糊狀) | | | | | OP7 | 35 | 40 | |
| 3119 | 過氧化二異丁酰 | ≤42 (水中穩定分散體) | | | | | OP8 | -20 | -10 | |

在表後的標記 (3)、(13)、(18) 和 (27) 中，“風險”替換為“危險”。

2.5.3.3 有機過氧化物的分類原則

2.5.3.3.2.2 “風險” 替換為 “危險” 。

2.5.3.3.2.3 “風險” 替換為 “危險” 。

第 2.6 章

第 6 類 – 有毒和感染性物質

2.6.2 第 6.1 類 – 有毒物質

2.6.2.2 毒物質包裝類的確定

2.6.2.2.1 “風險” 替換為 “危險”（三次）。

2.6.2.2.4.1 註中最後一句話末尾，替換 “（見 2.8.2.3）” 為 “（見 2.8.2.5）” 。

2.6.2.4 農藥的分類

2.6.2.4.1 在第 2 句中，” 風險” 替換為 “危險” 。

2.6.2.4.3 “風險” 替換為 “危險” 。

2.6.3 第 6.2 類 – 感染性物質

2.6.3.1 定義

2.6.3.1.4 在 “臨床標本” 的定義中，在 “臨床標本係指” 後， “人或動物材料” 替換為 “那些” 。

2.6.3.6 受感染動物

2.6.3.6.2 刪除第 2.6.3.6.2 段。

第 2.8 章

第 8 類 – 腐蝕性物質

替換整個第 2.8 章如下：

“第 2.8 章

第 8 類 – 腐蝕性物質

2.8.1 定義，一般規定和特性

2.8.1.1 定義

2.8.1.1.1 腐蝕性物質，是指通過化學作用會對皮膚造成不可逆損傷，或在滲漏時會對其他貨物或運輸工具造成實質性損害甚至毀壞的物質。

2.8.1.1.2 對皮膚具有腐蝕性的物質和混合物，第 2.8.2 節提供了一般分類規定。皮膚腐蝕是指對皮膚造成不可逆損傷，即接觸物質或混合物後發生透過表皮和進入真皮的可見壞死。

2.8.1.1.3 在運輸過程中可能成為液體的液體和固體，在被判定為不具有皮膚腐蝕性的情況下，仍須根據 2.8.3.3.3.2 的標準考慮其可能對某些金屬表面造成腐蝕的可能性。

2.8.1.2 特性

2.8.1.2.1 在特別嚴重的人身傷害可被預料的情況下，在第 3.2 章的《危險貨物一覽表》中，用“導致（嚴重）燒傷皮膚、眼睛和黏膜”的措辭註明這一影響。

2.8.1.2.2 許多物質具有足夠的揮發性，產生蒸汽刺激鼻子和眼睛。如果是這樣，在第 3.2 章的《危險貨物一覽表》中，用“蒸汽刺激黏膜”的措辭描述這一事實。

2.8.1.2.3 一些物質在高溫下分解時會產生有毒氣體。在這種情況下，在第 3.2 章的《危險貨物一覽表》中，顯示“遇火時，放出有毒氣體”的聲明。

2.8.1.2.4 除與皮膚或黏膜接觸的直接破壞性行為外，這一類中的某些物質是有毒的或有害的。如果被吞食或吸入蒸汽可能導致中毒，有些甚至可以滲透皮膚。在適當的情況下，在第 3.2 章的《危險貨物一覽表》中，對這些影響做出說明。

2.8.1.2.5 這一類中的所有物質對金屬和紡織品等材料有或多或少的破壞性影響。

2.8.1.2.5.1 在《危險貨物一覽表》中，“對大多數金屬有腐蝕性”的意思是，任何可能出現在船上或貨物中的金屬，都可能受到物質或蒸汽的侵害。

2.8.1.2.5.2 術語“對鋁、鋅、錫有腐蝕性”意味着鐵或鋼接觸該物質不會受到損壞。

2.8.1.2.5.3 這一類中的一些物質可以腐蝕玻璃、陶器和其他硅質材料。在適當的情況下，在第 3.2 章的《危險貨物一覽表》中，對這些做出陳述。

2.8.1.2.6 這一類中的許多物質只有在與水或空氣中的水分發生反應後，才會變得有腐蝕性。在第 3.2 章的《危險貨物一覽表》中，用“遇潮時...”的措辭表明這一事實。水與許多物質的反應伴隨着刺激性和腐蝕性氣體的釋放，這種氣體通常會在空氣中如煙霧般可見。

2.8.1.2.7 這一類中的一些物質與水或有機物質（包括木頭、紙張、纖維、一些緩衝材料和某些脂肪及油脂）反應時會產生熱量。在適當的情況下，在第 3.2 章的《危險貨物一覽表》中，對這些註明。

2.8.2 一般分類規定

2.8.2.1 第 8 類物質和混合物，根據它們在運輸中的危險程度，分為三個包裝類：

- .1 包裝類 I：非常危險的物質和混合物；
- .2 包裝類 II：顯示中等危險性的物質和混合物；
- .3 包裝類 III：顯示輕度危險性的物質和混合物。

2.8.2.2 在第 3.2 章的《危險貨物一覽表》中列出的第 8 類物質包裝類的劃分，是基於經驗做出的，同時考慮到如吸入風險（見 2.8.2.4）和遇水的反應性（包括危險分解產物的形成）等額外因素。

2.8.2.3 新物質和混合物，按照 2.8.3 的標準，根據引起完好皮膚組織產生不可逆損傷所需的接觸時間長度劃分包裝類。作為另一種選擇，對於混合物，也可以使用 8.2.4 的標準。

2.8.2.4 對滿足第 8 類標準的物質或混合物，其粉塵和蒸氣吸入毒性（LC50）屬於包裝類 I 範圍，但急性口服攝入或皮膚接觸毒性屬於包裝類 III 或以下範圍，須劃分為第 8 類（見 2.6.2.2.4.1 下的註）。

2.8.3 物質和混合物包裝類的劃分

2.8.3.1 現有的人類和動物數據，包括來自單一或重複接觸的信息，須做為評估的第一手資料，因為它們提供的信息與對皮膚的影響直接相關。

2.8.3.2 在按 2.8.2.3 劃分包裝類時，須考慮意外接觸情況下的人類經驗。在沒有人類經驗時，須根據按照 OECD 試驗準則 404 或 435 進行的試驗所取得的數據分類。根據 OECD 試驗準則 430 或 431 確定無腐蝕性

的物質或混合物，對本規則而言，無需進一步試驗，可視為對皮膚無腐蝕性。

2.8.3.3 腐蝕性物質根據以下標準劃分包裝類（見表 2.8.3.4）：

- .1 劃分為包裝類 I 的物質，在 3 分鐘或更少的接觸時間後，在 60 分鐘的觀察期內，對完好皮膚組織造成不可逆損傷。
- .2 劃分為包裝類 II 的物質，在 3 分鐘以上不超過 60 分鐘的接觸時間後，在 14 天的觀察期內，對完好皮膚組織造成不可逆損傷。
- .3 劃分為包裝類 III 的物質：
 - .1 在 60 分鐘以上不超過 4 小時的接觸時間後，在 14 天的觀察期內，對完好皮膚組織造成不可逆損傷；或
 - .2 被判定不造成完好皮膚組織不可逆損傷，但在 55°C 的試驗溫度下，在兩種材料上進行試驗，對鋼或鋁的表面腐蝕率超過 6.25 毫米一年。試驗所用鋼材為 S235JR+CR (1.0037 resp. St 37-2)、S275J2G3+CR (1.0144 resp. St 44-3)、SO 3574 或統一編號系統 (UNS) G10200 或相似型號或 SAE 1020。試驗用的鋁為非電鍍的 7075-T6 型或 AZ5GU-T6 型。一個可接受的試驗是聯合國《試驗和標準手冊》第 III 部分第 37 節中規定的試驗。

註：當對鋼或鋁的任何一種進行的初始試驗表明被試驗的物質具有腐蝕性時，則無須對另一種金屬進行後續的試驗。

表 2.8.3.4：2.8.3.3 中的標準彙總表

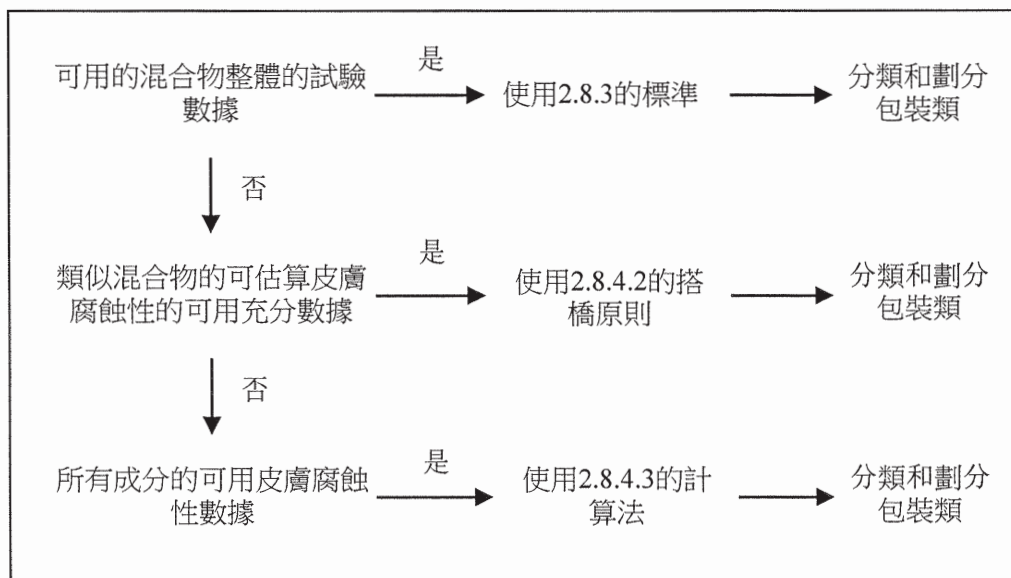
| 包裝類 | 接觸時間 | 觀察周期 | 影響 |
|-----|------------|--------|--|
| I | ≤3 分種 | ≤60 分種 | 完好皮膚組織不可逆損傷 |
| II | >3 分種≤1 小時 | ≤14 天 | 完好皮膚組織不可逆損傷 |
| III | >1 小時≤4 小時 | ≤14 天 | 完好皮膚組織不可逆損傷 |
| III | - | - | 在 55°C 的試驗溫度下，在兩種材料上進行試驗，對鋼或鋁的表面腐蝕率超過 6.25 毫米一年。 |

2.8.4 可供選擇的混合物包裝類劃分方法：分層法

2.8.4.1 一般規定

2.8.4.1.1 對於混合物，有必要獲取或派生出信息，其標準可以應用於混合物的分類和劃分包裝類。分類和劃分包裝類的方法是分層的，並且依賴於混合物本身、類似的混合物和/或其成分的可用信息數量。下圖 2.8.4.1 的流程圖概述了要遵循的流程：

圖 2.8.4.1：用分層法對腐蝕性混合物分類和劃分包裝類



2.8.4.2 搭橋原則

2.8.4.2.1 如果混合物沒有經過確定皮膚腐蝕可能性的試驗，但對混合物的單個成分和經過試驗的類似混合物均已掌握了足以分類和劃分包裝類的充分數據，將根據以下的橋接原則使用這些數據。這確保了分類過程在最大程度上利用可用數據來描述混合物的危害。

- .1 **稀釋**：如果一種經過試驗的混合物用不符合第 8 類標準的稀釋劑稀釋，並且不影響其他成分的包裝類，那麼新的稀釋混合物可與原始經過試驗的混合物被劃分為相同的包裝類。

註：在某些情況下，稀釋混合物或物質可能會導致腐蝕性增加。如果是這種情況，就不能使用這種搭橋原則。

- .2 **批次：**混合物的一個經過試驗產品批次的皮膚腐蝕可能性，可以認為其實質上與同一製造商生產的或在其控制下生產的相同商業產品的另一個未經試驗產品批次的相同，除非有理由相信未經試驗產品批次的皮膚腐蝕可能性有顯著變化。如果發生後一種情況，需要進行新的分類。
- .3 **包裝類 I 混合物的濃度：**如果經過試驗符合包裝類 I 標準的混合物被濃縮，那麼濃度更大的未經試驗的混合物可以劃分為包裝類 I，不需要額外試驗。
- .4 **一個包裝類內的內插法：**三個成分相同的混合物（A、B 和 C），混合物 A 和 B 經過試驗，為相同皮膚腐蝕性包裝類。未經試驗的混合 C 含有與混合物 A 和 B 相同的第 8 類成分，其濃度介於混合物 A 和 B 之間，那麼混合物 C 被假定為與 A 和 B 具有相同的皮膚腐蝕包裝類。
- .5 **實質上類似的混合物：**考慮以下情況：
 - .1 兩種混合物： $(A+B)$ 和 $(C+B)$ ；
 - .2 成分 B 的濃度在兩種混合物中相同；
 - .3 混合物 $(A+B)$ 中成分 A 的濃度等於混合物 $(C+B)$ 中成分 C 的濃度；且
 - .4 成分 A 和 C 的皮膚腐蝕性數據可用，並且實質上是相同的，也就是說它們是相同的皮膚腐蝕性包裝類，且不影響 B 的皮膚腐蝕可能性。

如果混合物 $(A+B)$ 或 $(C+B)$ 已經根據試驗數據進行分類，那麼另一種混合物可劃分為相同的包裝類。

2.8.4.3 基於物質分類的計算法

2.8.4.3.1 未對混合物進行試驗以確定其皮膚腐蝕可能性，也沒有類似混合物的充分數據，就須考慮混合物中物質的腐蝕特性，以進行分類和劃分包裝類。

只有在沒有協同效應使混合物比其物質的總和更具腐蝕性的情況下，才允許使用計算法。這個限制僅在混合物被劃分為包裝類 II 或 III 時適用。

2.8.4.3.2 在使用計算法時，應考慮所有濃度大於等於 1% 的第 8 類成分，或仍對混合物皮膚腐蝕性分類相關的濃度小於 1% 的成分。

2.8.4.3.3 為確定含有腐蝕性物質的混合物是否須被視為腐蝕性混合物，並劃分一個包裝類，須採用圖 2.8.4.3 流程圖中的計算法。

2.8.4.3.4 如果一種物質在《危險貨物一覽表》中或在特殊規定中已經劃定一個具體濃度極限（SCL），須使用該限制而不是通用濃度極限（GCL）。評估包裝類 I 物質的第一步使用 1%，其他步驟使用 5%，分別見圖 2.8.4.3。

2.8.4.3.5 為此，須調整計算方法的每一步的求和公式。這意味着，在適用的情況下，通用濃度極限須由分配給（各種）物質的具體濃度極限（SCL_i）來代替，而調整後的公式是分配給混合物中不同物質的不同濃度極限的加權平均值：

$$\frac{PGx_1}{GCL} + \frac{PGx_2}{SCL_2} + \dots + \frac{PGx_i}{SCL_i} \geq 1$$

式中：

PGxi = 劃分為包裝類 x（I，II 或 III）的混合物中所含

物質 1、2、...i 的濃度。

GCL = 通用濃度極限

SCL_i = 分配給物質 i 的具體濃度極限

當計算結果 ≥ 1 時，就可滿足包裝類的標準。在計算法的每一步中用於評估的通用濃度極限，在圖 2.8.4.3 中可找到。

上述公式的應用示例可以在下面的註中找到。

註：上述公式的應用示例

例 1：混合物中含有一種濃度為 5% 的劃為包裝類 I 的腐蝕性物質，沒有具體濃度極限

包裝類 I 的計算： $\frac{5}{5(GCL)} = 1$ 劃為第 8 類，包裝類 I

例 2：混合物含有三種對皮膚有腐蝕性的物質；其中兩種（A 和 B）有具體濃度極限；第三種（C）使用通用濃度極限。混合物的其他成分無需考慮。

| 混合物中的物質 X 及其在第 8 類中的包裝類劃分 | 混合物中的濃度 % | 包裝類 I 的具體濃度極限 (SCL) | 包裝類 II 的具體濃度極限 (SCL) | 包裝類 III 的具體濃度極限 (SCL) |
|---------------------------|-----------|---------------------|----------------------|-----------------------|
| A，劃為包裝類 I | 3 | 30% | 無 | 無 |
| B，劃為包裝類 I | 2 | 20% | 10% | 無 |
| C，劃為包裝類 III | 10 | 無 | 無 | 無 |

包裝類 I 的計算： $\frac{3(\text{conc A})}{30(SCL\text{ PGI})} + \frac{2(\text{conc B})}{20(SCL\text{ PGI})} = 0,2 < 1$

未滿足包裝類 I 的標準。

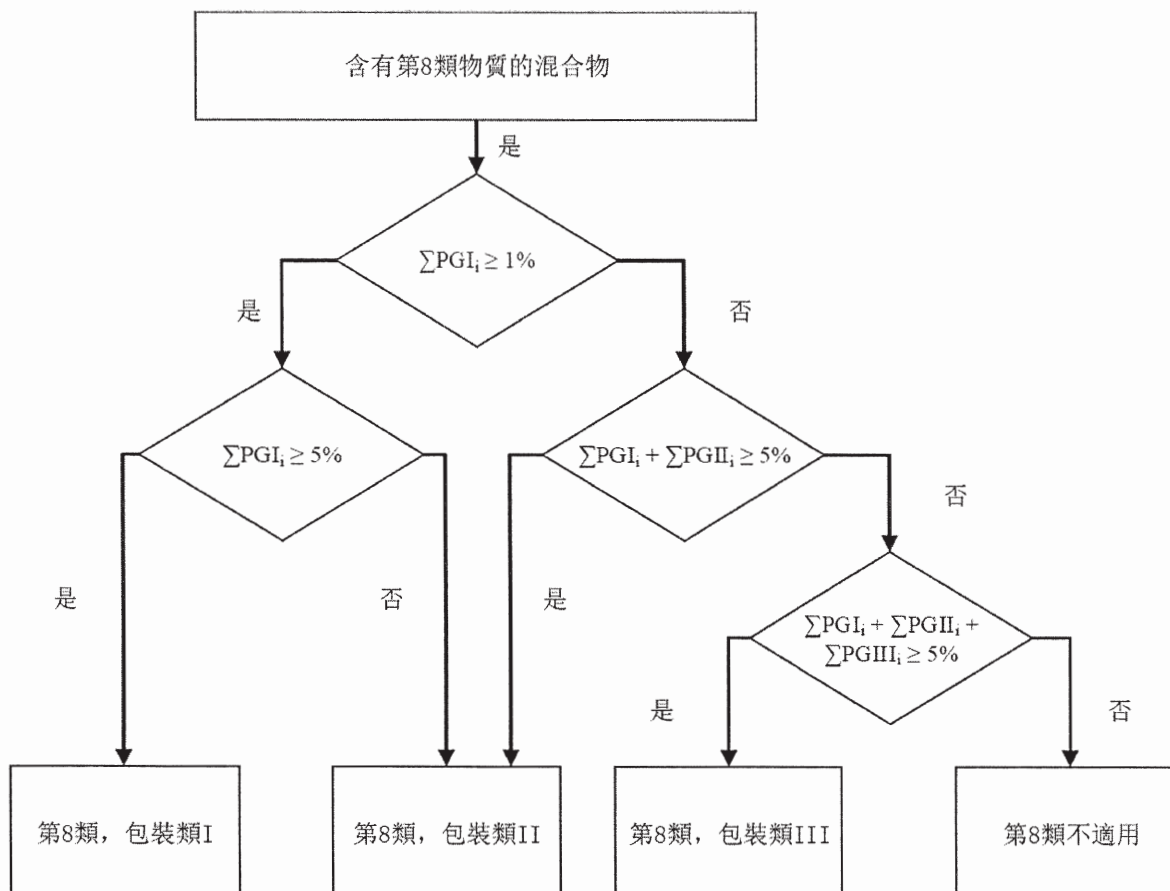
包裝類 II 的計算： $\frac{3(\text{conc A})}{5(GCL\text{ PG II})} + \frac{2(\text{conc B})}{10(SCL\text{ PG II})} = 0,8 < 1$

未滿足包裝類 II 的標準。

$$\text{包裝類III的計算} : \frac{3 (\text{conc A})}{5 (\text{GCL PGIII})} + \frac{2 (\text{conc B})}{5 (\text{GCL PG III})} + \frac{10 (\text{conc C})}{5 \text{GCL PG III}} = 3 \geq 1$$

滿足包裝類III的標準，混合物須被劃為第8類，包裝類III。

圖2.8.4.3：計算法



2.8.5 禁止運輸的物質

除非採取必要的防範措施，防止在正常運輸條件下可能發生危險的分解或聚合，否則不接受第 8 類化學不穩定物質的運輸。為防止聚合所必需的預防措施，見第 3.3 章的特殊規定 386。為此，應特別注意確保容器和罐櫃不含有任何可能促進這些反應的物質。”

第 2.9 章

雜類危險物質和物品（第 9 類）和環境有害物質

2.9.2 劃分到第 9 類

2.9.2.2 在“鋰電池組”標題下，增加如下新條目：

“3536 裝在貨物運輸組件中的鋰電池”

在“運輸過程中存在危險但不能滿足其他類別定義的其他物質或物品”標題下，插入如下新分段：

“硝酸銨基化肥

2071 硝酸銨基化肥

固體硝酸銨基化肥應按照《試驗和標準手冊》第 3 部分第 39 節規定的程序進行分類。”

在“運輸過程中存在危險但不能滿足其他類別定義的其他物質或物品”標題下，刪除條目“2071 硝酸銨基化肥”，並在列表的末尾增加如下新條目：

“3548 含有雜項危險貨物的物品，未另列明的”

2.9.3 環境有害物質（水環境）

2.9.3.4.6.5 含有無任何可用信息成分的混合物分類

2.9.3.4.6.5.1 在段落末尾，刪除“並附帶說明：“本混合物 X%的成分，對水環境危害性不明。””。

2.9.4 鋰電池組

增加如下新的第.6 分段和第.7 分段：

- “.6 鋰電池組（既包含一次性鋰金屬電池芯，也包含可充電的鋰離子電池芯）不是設計為外部充電的（見第 3.3 章的特殊規定 387），應符合下列條件：
- .1 可充電的鋰離子電池芯只能從一次性鋰金屬電池芯中充電；
 - .2 從設計上排除了可充電鋰離子電池芯的過度充電；
 - .3 電池組作為一次性鋰電池組經過試驗；且
 - .4 作為電池組元件的電池芯須是經過試驗，符合《試驗和標準手冊》第三部分第 38.3 小節的相應試驗要求的類型。
- .7 電池芯或電池組的製造商和隨後的經銷商應提供《試驗和標準手冊》第三部分第 38.3 小節第 38.3.5 段中規定的試驗簡介。”

第 3 部分

危險貨物一覽表、特殊規定和限量免除

第 3.1 章

一般規定

3.1.1 適用範圍和一般規定

3.1.1.2 在最後一句話的結尾，“風險”替換為“危險”。

3.1.2 正確運輸名稱

3.1.2.2 在段落中，現有第一句話修改如下：

“如幾種明顯不同的正確運輸名稱合併列在一個聯合國編號下，並且有“和”或“或”斷開，或有逗號停頓時，在運輸單證或包裝標記中只需寫明最合適的名稱。”

並刪除第 2 句話。

3.1.2.6 新增新的第.2 分段如下：

“.2 除非在危險貨物一覽表列出的名稱中已經帶有用黑體字“溫度控制”，否則應增加該詞語作為正確運輸名稱的一部分。”

並重新編號原有的.2 為.3。

3.1.2.8 類屬或“未另列明的”（N.O.S.）條目

3.1.2.8.1.2 現有第一句話修改如下：

“在危險貨物一覽表中，如果某種危險貨物混合物或含有危險貨物的物品被劃入“未另列明的”或類屬條目而且適用於特殊規定 274，則要在這些混合物包件上標出不多於兩種構成混合物危險性的最重要成分的標記，但國家法律或國際公約禁止泄露的受管制的物質除外。”

並在第二句，“風險”替換為“危險”（兩次）。

3.1.2.8.1.3 在段落後新增如下例子：

“UN 3540 含有易燃液體的物品，未另列明的（吡咯烷）”。

3.1.3 混合物和溶液

3.1.3.2.3 “風險” 替換為 “危險” 。

3.1.3.4 “風險” 替換為 “危險” 。

3.1.4 隔離類

3.1.4.1 現有段落修改如下：

“3.1.4.1 就隔離而言，具有相似化學特性的危險貨物組合成同一隔離類（見 7.2.5）。”

3.1.4.4 現有的標題修改如下：

- 1 酸類（SGG1 or SGG1a）
- 2 銨化合物類（SGG2）
- 3 溴酸鹽類（SGG3）
- 4 氯酸鹽類（SGG4）
- 5 亞氯酸鹽類（SGG5）
- 6 氰化物類（SGG6）
- 7 重金屬及其鹽類（包括它們的有機金屬化合物）（SGG7）
- 8 次氯酸鹽類（SGG8）
- 9 鉛及其化合物類（SGG9）
- 10 液體鹵代碳氫化合物類（SGG10）
- 11 汞及其化合物類（SGG11）
- 12 亞硝酸鹽類及其混合物類（SGG12）
- 13 高氯酸鹽類（SGG13）
- 14 高錳酸鹽類（SGG14）
- 15 金屬粉末類（SGG15）

16 過氧化物類 (SGG16)

17 疊氮化合物類 (SGG17)

18 鹼類 (SGG18)

3.1.4.4 在“3 溴酸鹽類”刪除條目“3213 溴酸鉍”。在“7 重金屬及其鹽類（包括它們的有機金屬化合物）”刪除條目“1366 二乙基鋅”和“1370 二甲基鋅”。

第 3.2 章

危險貨物一覽表

3.2.1 危險貨物一覽表結構說明

在第 4 欄的描述中，“風險”替換為“危險”（兩次）。

在第 15 欄，在“應急反應”前增加“經修改的”。

在 16b 欄，在“包含”之後插入“7.2.5.2 列明的隔離類代碼和”。

危險貨物一覽表

在危險貨物一覽表中，第 4 欄標題中，“風險”替換為“危險”，並且修改如下條目：

| | |
|------|------------------------------|
| 0004 | 在第 16b 欄，插入“SGG2” |
| 0005 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0006 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0007 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0033 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0034 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0035 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0037 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |

| | |
|------|--|
| 0038 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0042 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0043 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0048 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0056 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0059 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0060 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0065 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0099 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0102 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0124 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” 和插入 “SW30” |
| 0129 | 在第 16b 欄, 插入 “SGG7”、 “SGG9” 和 “SGG17” |
| 0130 | 在第 16b 欄, 插入 “SGG7” 和 “SGG9” |
| 0135 | 在第 16b 欄, 插入 “SGG7” 和 “SGG11” |
| 0136 | 在第 16a 欄, “積載類 05” 修改為 “積載類 03” |
| 0137 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0138 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0167 | 在第 16a 欄, “積載類 05” 修改為 “積載類 03” |
| 0168 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0169 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0180 | 在第 16a 欄, “積載類 05” 修改為 “積載類 03” |
| 0181 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0182 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0183 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0186 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0204 | 在第 16a 欄, “積載類 05” 修改為 “積載類 03” |
| 0221 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0222 | 在第 16b 欄, 插入 “SGG2” |
| 0224 | 在第 16b 欄, 插入 “SGG17” |
| 0242 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0271 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0272 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0275 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0277 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0279 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0280 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |
| 0283 | 在第 16a 欄, “積載類 04” 修改為 “積載類 03” |

| | |
|------|------------------------------|
| 0284 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0285 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0286 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0287 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0290 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0291 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0292 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0293 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0294 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0295 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0296 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0321 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0324 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0326 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0327 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0328 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0329 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0330 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0346 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0348 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0349 | 在第 6 欄，插入“347” |
| 0367 | 在第 6 欄，插入“347” |
| 0369 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0371 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0374 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0375 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0381 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0384 | 在第 6 欄，插入“347” |
| 0402 | 在第 16b 欄，插入“SGG2” |
| 0408 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0409 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0413 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0414 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0415 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0417 | 在第 16a 欄，“積載類 04”修改為“積載類 03” |
| 0426 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |
| 0427 | 在第 16a 欄，“積載類 05”修改為“積載類 03” |

| | |
|---------------|--|
| 0436 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0437 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0439 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0442 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0443 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0447 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0451 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0457 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0458 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0462 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0463 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0464 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0465 | 在第 16a 欄， “積載類 05” 修改為 “積載類 03” |
| 0466 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0467 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0468 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0469 | 在第 16a 欄， “積載類 05” 修改為 “積載類 03” |
| 0470 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 0472 | 在第 16a 欄， “積載類 05” 修改為 “積載類 03” |
| 0481 | 在第 6 欄， 插入 “347” |
| 0494 | 在第 16a 欄， 插入 “SW30” |
| 0502 | 在第 16a 欄， “積載類 04” 修改為 “積載類 03” |
| 1005 | 在第 16b 欄， 插入 “SGG18” |
| 1011 | 在第 6 欄， 插入 “392” |
| 1016 | 在第 6 欄， 插入 “974” |
| 1032 | 在第 16b 欄， 插入 “SG35” |
| 1036 | 在第 16b 欄， 插入 “SG35” |
| 1046 | 在第 6 欄， 插入 “974” |
| 1049 | 在第 6 欄， 插入 “392” 和 “974” |
| 1052 | 在第 16b 欄， 插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1061 | 在第 16b 欄， 插入 “SG35” |
| 1075 | 在第 6 欄， 插入 “392” |
| 1083 | 在第 16b 欄， 插入 “SG35” |
| 1099 | 在第 16b 欄， 插入 “SGG10” |
| 1100 | 在第 16b 欄， 插入 “SGG10” |
| 1106 ; PG II | 在第 16b 欄， 插入 “SG35” |
| 1106 ; PG III | 在第 16b 欄， 插入 “SG35” |

| | |
|----------------|------------------------------------|
| 1107 | 在第 16b 欄，插入 “SGG10” |
| 1125 | 在第 16b 欄，插入 “SG35” |
| 1126 | 在第 16b 欄，插入 “SGG10” |
| 1127 | 在第 16b 欄，插入 “SGG10” |
| 1134 | 在第 16b 欄，插入 “SGG10” |
| 1150 | 在第 16b 欄，插入 “SGG10” |
| 1152 | 在第 16b 欄，插入 “SGG10” |
| 1154 | 在第 16b 欄，插入 “SG35” |
| 1158 | 在第 16b 欄，插入 “SG35” |
| 1160 | 在第 16b 欄，插入 “SGG18” |
| 1163 | 在第 16b 欄，插入 “SGG18” |
| 1182 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1183 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1184 | 在第 16b 欄，插入 “SGG10” |
| 1214 | 在第 16b 欄，插入 “SG35” |
| 1221 | 在第 16b 欄，插入 “SG35” |
| 1235 | 在第 16b 欄，插入 “SGG18” |
| 1238 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1242 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1244 | 在第 16b 欄，插入 “SGG18” |
| 1250 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1277 | 在第 16b 欄，插入 “SG35” |
| 1278 | 在第 16b 欄，插入 “SGG10” |
| 1279 | 在第 16b 欄，插入 “SGG10” |
| 1295 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1296 | 在第 16b 欄，插入 “SG35” |
| 1297 PG I | 在第 16b 欄，插入 “SG35” |
| 1297 PG II | 在第 16b 欄，插入 “SG35” |
| 1297 PG III | 在第 16b 欄，插入 “SG35” |
| 1298 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1303 | 在第 16b 欄，插入 “SGG10” |
| 1305 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1309 PG II | 在第 16b 欄，插入 “SGG15” |
| 1309 PG III | 在第 16b 欄，插入 “SGG15” |
| 1310 | 在第 16b 欄，插入 “SGG2” |

| | |
|------------------------|------------------------------|
| 1325 PG II | 在第 16b 欄，插入 “SG72” |
| 1325 PG III | 在第 16b 欄，插入 “SG72” |
| 1326 | 在第 16b 欄，插入 “SGG15” |
| 1327 | 在第 6 欄，插入 “973” |
| 1347 | 在第 16b 欄，插入 “SGG7” |
| 1352 | 在第 16b 欄，插入 “SGG15” |
| 1358 | 在第 16b 欄，插入 “SGG15” |
| 1363 | 在第 6 欄，插入 “973” |
| 1364 | 在第 6 欄，插入 “973” |
| 1365 | 在第 6 欄，插入 “973” |
| 1382 | 在第 16b 欄，插入 “SGG18” |
| 1383 | 在第 16b 欄，插入 “SGG15” ” |
| 1385 | 在第 16b 欄，插入 “SGG18” |
| 1386 (both entries) | 在第 6 欄，插入 “973” |
| 1389 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 1392 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 1396 PG II | 在第 16b 欄，插入 “SGG15” |
| 1396 PG III | 在第 16b 欄，插入 “SGG15” |
| 1398 | 在第 16b 欄，插入 “SGG15” |
| 1418 PG I | 在第 16b 欄，插入 “SGG15” |
| 1418 PG II | 在第 16b 欄，插入 “SGG15” |
| 1418 PG III | 在第 16b 欄，插入 “SGG15” |
| 1435 | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 1436 PG I | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 1436 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 1436 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 1439 | 在第 16b 欄，插入 “SGG2” |
| 1442 | 在第 16b 欄，插入 “SGG2” 和 “SGG13” |
| 1444 | 在第 16b 欄，插入 “SGG2” |
| 1445 | 在第 16b 欄，插入 “SGG4” |
| 1447 | 在第 16b 欄，插入 “SGG13” |
| 1448 | 在第 16b 欄，插入 “SGG14” |
| 1449 | 在第 16b 欄，插入 “SGG16” |

| | |
|----------------|-------------------------------------|
| 1450 | 在第 16b 欄，插入 “SGG3” |
| 1452 | 在第 16b 欄，插入 “SGG4” |
| 1453 | 在第 16b 欄，插入 “SGG5” |
| 1455 | 在第 16b 欄，插入 “SGG13” |
| 1456 | 在第 16b 欄，插入 “SGG14” |
| 1457 | 在第 16b 欄，插入 “SGG16” |
| 1458 PG II | 在第 16b 欄，插入 “SGG4” |
| 1458 PG III | 在第 16b 欄，插入 “SGG4” |
| 1459 PG II | 在第 16b 欄，插入 “SGG4” |
| 1459 PG III | 在第 16b 欄，插入 “SGG4” |
| 1461 | 在第 16b 欄，插入 “SGG4” |
| 1462 | 在第 16b 欄，插入 “SGG5” |
| 1469 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 1470 | 在第 16b 欄，插入 “SGG7”、“SGG9” 和 “SGG13” |
| 1471 PG II | 在第 16b 欄，插入 “SGG8” |
| 1471 PG III | 在第 16b 欄，插入 “SGG8” |
| 1472 | 在第 16b 欄，插入 “SGG16” |
| 1473 | 在第 16b 欄，插入 “SGG3” |
| 1475 | 在第 16b 欄，插入 “SGG13” |
| 1476 | 在第 16b 欄，插入 “SGG16” |
| 1481 PG II | 在第 16b 欄，插入 “SGG13” |
| 1481 PG III | 在第 16b 欄，插入 “SGG13” |
| 1482 PG II | 在第 16b 欄，插入 “SGG14” |
| 1482 PG III | 在第 16b 欄，插入 “SGG14” |
| 1483 PG II | 在第 16b 欄，插入 “SGG16” |
| 1483 PG III | 在第 16b 欄，插入 “SGG16” |
| 1484 | 在第 16b 欄，插入 “SGG3” |
| 1485 | 在第 16b 欄，插入 “SGG4” |
| 1487 | 在第 16b 欄，插入 “SGG12” ” |
| 1488 | 在第 16b 欄，插入 “SGG12” ” |
| 1489 | 在第 16b 欄，插入 “SGG13” |
| 1490 | 在第 16b 欄，插入 “SGG14” |

| | |
|----------------|---------------------------------------|
| 1491 | 在第 16b 欄，插入 “SGG16” |
| 1493 | 在第 16b 欄，插入 “SGG7” |
| 1494 | 在第 16b 欄，插入 “SGG3” |
| 1495 | 在第 16b 欄，插入 “SGG4” |
| 1496 | 在第 16b 欄，插入 “SGG5” |
| 1500 | 在第 16b 欄，插入 “SGG12” ” |
| 1502 | 在第 16b 欄，插入 “SGG13” |
| 1503 | 在第 16b 欄，插入 “SGG14” |
| 1504 | 在第 16b 欄，插入 “SGG16” |
| 1506 | 在第 16b 欄，插入 “SGG4” |
| 1508 | 在第 16b 欄，插入 “SGG13” |
| 1509 | 在第 16b 欄，插入 “SGG16” |
| 1512 | 在第 16b 欄，插入 “SGG2” 、 “SGG7” 和 “SGG12” |
| 1513 | 在第 16b 欄，插入 “SGG4” 、 “SGG7” |
| 1514 | 在第 16b 欄，插入 “SGG7” |
| 1515 | 在第 16b 欄，插入 “SGG7” 和 “SGG14” |
| 1516 | 在第 16b 欄，插入 “SGG7” 和 “SGG16” |
| 1541 | 在第 16b 欄，插入 “SGG6” |
| 1546 | 在第 16b 欄，插入 “SGG2” |
| 1565 | 在第 16b 欄，插入 “SGG6” |
| 1571 | 在第 16b 欄，插入 “SGG17” |
| 1572 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1575 | 在第 16b 欄，插入 “SGG6” |
| 1587 | 在第 16b 欄，插入 “SGG6” 和 “SGG7” |
| 1588 PG I | 在第 16b 欄，插入 “SGG6” |
| 1588 PG II | 在第 16b 欄，插入 “SGG6” |
| 1588 PG III | 在第 16b 欄，插入 “SGG6” |
| 1591 | 在第 16b 欄，插入 “SGG10” |
| 1593 | 在第 16b 欄，插入 “SGG10” |
| 1595 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1604 | 在第 16b 欄，插入 “SGG18” |
| 1605 | 在第 16b 欄，插入 “SGG10” |
| 1616 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 1617 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 1618 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 1620 | 在第 16b 欄，插入 “SGG6” 、 “SGG7” 和 “SGG9” |

| | |
|------|----------------------------------|
| 1623 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1624 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1625 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1626 | 在第 16b 欄，插入“SGG6”、“SGG7”和“SGG11” |
| 1627 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1629 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1630 | 在第 16b 欄，插入“SGG2”、“SGG7”和“SGG11” |
| 1631 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1634 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1636 | 在第 16b 欄，插入“SGG6”、“SGG7”和“SGG11” |
| 1637 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1638 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1639 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1640 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1641 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1642 | 在第 16b 欄，插入“SGG6”、“SGG7”和“SGG11” |
| 1643 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1644 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1645 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1646 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 1647 | 在第 16b 欄，插入“SGG10” |
| 1649 | 在第 16b 欄，插入“SGG7”和“SGG9” |
| 1653 | 在第 16b 欄，插入“SGG6”和“SGG7” |
| 1669 | 在第 16b 欄，插入“SGG10” |
| 1674 | 在第 16b 欄，插入“SGG7” |
| 1679 | 在第 16b 欄，插入“SGG6” |
| 1680 | 在第 16b 欄，插入“SGG6” |
| 1683 | 在第 16b 欄，插入“SGG7” |
| 1684 | 在第 16b 欄，插入“SGG6”和“SGG7” |
| 1687 | 在第 16b 欄，插入“SGG17” |
| 1689 | 在第 16b 欄，插入“SGG6” |
| 1694 | 在第 16b 欄，插入“SGG6” |
| 1701 | 在第 16b 欄，插入“SGG10” |
| 1702 | 在第 16b 欄，插入“SGG10” |
| 1710 | 在第 16b 欄，插入“SGG10” |
| 1712 | 在第 16b 欄，插入“SGG7” |
| 1713 | 在第 16b 欄，插入“SGG6”和“SGG7” |

| | |
|----------------|--|
| 1714 | 在第 16b 欄，插入 “SGG7” |
| 1715 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1716 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1717 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1718 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1719 PGII | 在第 16b 欄，插入 “SGG18” |
| 1719 PGIII | 在第 16b 欄，插入 “SGG18” |
| 1722 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1723 | 在第 16b 欄，插入 “SGG1” 、 “SGG10” 、 “SG36” 和 “SG49” |
| 1724 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1725 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1726 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1727 | 在第 16b 欄，插入 “SGG1” 、 “SGG2” 、 “SG36” 和 “SG49” |
| 1728 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1729 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1730 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1731 PG II | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1731 PG III | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1732 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1733 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1736 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1737 | 在第 16b 欄，插入 “SGG1” 、 “SGG10” 、 “SG36” 和 “SG49” |
| 1738 | 在第 16b 欄，插入 “SGG1” 、 “SGG10” 、 “SG36” 和 “SG49” |
| 1739 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1740 PG II | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1740 PG III | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1742 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1743 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1744 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1745 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1746 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1747 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1748 | 在第 16b 欄，插入 “SGG8” |
| 1750 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1751 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |

| | |
|----------------|----------------------------------|
| 1752 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1753 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1754 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1755 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1755 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1756 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1757 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1757 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1758 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1761 PG II | 在第 16b 欄，插入“SG35” |
| 1761 PG III | 在第 16b 欄，插入“SG35” |
| 1762 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1763 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1764 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1765 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1766 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1767 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1768 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1769 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1770 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1771 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1773 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1775 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1776 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1777 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1778 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1779 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1780 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1781 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1782 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1783 PG II | 在第 16b 欄，插入“SG35” |
| 1783 PG III | 在第 16b 欄，插入“SG35” |
| 1784 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1786 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |

| | |
|----------------|--|
| 1787 PG II | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1787 PG III | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1788 PG II | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1788 PG III | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1789 PG II | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1789 PG III | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1790 PG I | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1790 PG II | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1791 PG II | 在第 6 欄，插入 “274” 和 “900” ，在第 16b 欄，插入 “SGG8” |
| 1791 PG III | 在第 6 欄，插入 “274” 和 “900” ，在第 16b 欄，插入 “SGG8” |
| 1792 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1793 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1794 | 在第 16b 欄，插入 “SGG1” 、 “SGG7” 、 “SGG9” 、 “SG36” 和 “SG49” |
| 1796 PG I | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1796 PG II | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1798 | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1799 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1800 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1801 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1802 | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 1803 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1804 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1805 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1806 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1807 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1808 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1809 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1810 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1811 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 1813 | 在第 16b 欄，插入 “SGG18” |
| 1814 PG II | 在第 16b 欄，插入 “SGG18” |

| | |
|----------------|--|
| 1814 PG III | 在第 16b 欄，插入“SGG18” |
| 1815 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1816 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1817 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1818 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1819 PG II | 在第 16b 欄，插入“SGG18” |
| 1819 PG III | 在第 16b 欄，插入“SGG18” |
| 1823 | 在第 16b 欄，插入“SGG18” |
| 1824 PG II | 在第 16b 欄，插入“SGG18” |
| 1824 PG III | 在第 16b 欄，插入“SGG18” |
| 1825 | 在第 16b 欄，插入“SGG18” |
| 1826 PG I | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1826 PG II | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1827 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1828 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1829 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1830 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1831 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1832 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 1833 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1834 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1835 PG II | 在第 16b 欄，插入“SGG2”和“SGG18” |
| 1835 PG III | 在第 16b 欄，插入“SGG2”和“SGG18” |
| 1836 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1837 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1838 | 在第 16b 欄，插入“SGG1”、“SGG7”、“SG36”和“SG49” |
| 1839 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1840 | 在第 16b 欄，插入“SGG1”、“SGG7”、“SG36”和“SG49” |
| 1843 | 在第 16b 欄，插入“SGG2” |
| 1846 | 在第 16b 欄，插入“SGG10” |
| 1847 | 在第 16b 欄，插入“SGG18” |
| 1848 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 1849 | 在第 16b 欄，插入“SGG18” |

| | |
|----------------|--|
| 1854 | 在第 16b 欄，插入 “SGG15” |
| 1856 | 在第 6 欄，插入 “973” |
| 1872 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 1873 | 在第 16b 欄，插入 “SGG1a”、“SG36” 和 “SG49” |
| 1887 | 在第 16b 欄，插入 “SGG10” |
| 1888 | 在第 16b 欄，插入 “SGG10” |
| 1889 | 在第 16b 欄，插入 “SGG6” |
| 1891 | 在第 16b 欄，插入 “SGG10” |
| 1894 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 1895 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 1897 | 在第 16b 欄，插入 “SGG10” |
| 1898 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1902 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1905 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1906 | 在第 16b 欄，插入 “SGG1a”、“SG36” 和 “SG49” |
| 1907 | 在第 16b 欄，插入 “SGG18” |
| 1908 PGII | 在第 6 欄，插入 “274” 和 “352”，在第 16b 欄，插入 “SGG5” |
| 1908 PGIII | 在第 6 欄，插入 “274” 和 “352”，在第 16b 欄，插入 “SGG5” |
| 1922 | 在第 16b 欄，插入 “SGG18” |
| 1931 | 在第 16b 欄，插入 “SGG7” |
| 1935 PG I | 在第 16b 欄，插入 “SGG6” |
| 1935 PG II | 在第 16b 欄，插入 “SGG6” |
| 1935 PG III | 在第 16b 欄，插入 “SGG6” |
| 1938 PG II | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1938 PG III | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1939 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1940 | 在第 16b 欄，插入 “SGG1”、“SG36” 和 “SG49” |
| 1942 | 在第 16b 欄，插入 “SGG2” |
| 1945 | 在第 6 欄，增加 “293” |
| 1954 | 在第 6 欄，插入 “392” |
| 1965 | 在第 6 欄，插入 “392” |
| 1969 | 在第 6 欄，插入 “392” |
| 1971 | 在第 6 欄，插入 “392” 和 “974” |
| 1978 | 在第 6 欄，插入 “392” |

| | |
|-----------------------------------|---------------------------------------|
| 1991 | 在第 16b 欄，插入 “SGG10” |
| 2008 PG I | 在第 16b 欄，插入 “SGG15” |
| 2008 PG II | 在第 16b 欄，插入 “SGG15” |
| 2008 PG III | 在第 16b 欄，插入 “SGG15” |
| 2009 | 在第 16b 欄，插入 “SGG15” |
| 2014 | 在第 16b 欄，插入 “SGG16” |
| 2015 | 在第 16b 欄，插入 “SGG16” |
| 2024 PG I | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2024 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2024 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2025 PG I | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2025 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2025 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2026 PG I | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2026 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2026 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 2029 | 在第 16b 欄，插入 “SGG18” |
| 2030 PG I | 在第 16b 欄，插入 “SGG18” |
| 2030 PG II | 在第 16b 欄，插入 “SGG18” |
| 2030 PG III | 在第 16b 欄，插入 “SGG18” |
| 2031 PG I | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 2031 PG II (both entries) | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 2032 | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 2033 | 在第 16b 欄，插入 “SGG18” |
| 2051 | 在第 16b 欄，插入 “SG35” |
| 2067 | 在第 6 欄，刪除 “186” ，在第 16b 欄，插入 “SGG2” |
| 2071 | 在第 6 欄，刪除 “186” ，在第 16b 欄，插入 “SGG2” |
| 2073 | 在第 16b 欄，插入 “SGG2” 和 “SGG18” |
| 2079 | 在第 16b 欄，插入 “SGG18” |

| | |
|------------------------|---------------------------------------|
| 2205 | 在第 16b 欄，插入 “SGG6” |
| 2208 | 在第 16b 欄，插入 “SGG8” |
| 2214 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2215 (both entries) | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2216 | 在第 6 欄，插入 “973” |
| 2217 | 在第 6 欄，移走 “117” 和插入 “973” |
| 2218 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2225 | 在第 16b 欄，插入 “SGG1” |
| 2226 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2234 | 在第 16b 欄，插入 “SGG10” |
| 2238 | 在第 16b 欄，插入 “SGG10” |
| 2240 | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 2248 | 在第 16b 欄，插入 “SG35” |
| 2258 | 在第 16b 欄，插入 “SG35” |
| 2259 | 在第 16b 欄，插入 “SGG18” |
| 2260 | 在第 16b 欄，插入 “SG35” |
| 2262 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2264 | 在第 16b 欄，插入 “SG35” |
| 2266 | 在第 16b 欄，插入 “SG35” |
| 2267 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2269 | 在第 16b 欄，插入 “SG35” |
| 2270 | 在第 16b 欄，插入 “SGG18” |
| 2276 | 在第 16b 欄，插入 “SG35” |
| 2279 | 在第 16b 欄，插入 “SGG10” |
| 2280 (both entries) | 在第 16b 欄，插入 “SG35” |
| 2289 | 在第 16b 欄，插入 “SG35” |
| 2291 | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 2305 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2308 | 在第 16b 欄，插入 “SGG1a” 、 “SG36” 和 “SG49” |
| 2316 | 在第 16b 欄，插入 “SGG6” |
| 2317 | 在第 16b 欄，插入 “SGG6” |
| 2318 | 在第 16b 欄，插入 “SGG18” |
| 2320 | 在第 16b 欄，插入 “SGG18” |
| 2321 | 在第 16b 欄，插入 “SGG10” |
| 2322 | 在第 16b 欄，插入 “SGG10” |
| 2326 | 在第 16b 欄，插入 “SG35” |
| 2327 | 在第 16b 欄，插入 “SG35” |

| | |
|----------------|--|
| 2331 | 在第 16b 欄，插入“SGG1”、“SGG7”、“SG36”和“SG49” |
| 2334 | 在第 16b 欄，插入“SG35” |
| 2339 | 在第 16b 欄，插入“SGG10” |
| 2341 | 在第 16b 欄，插入“SGG10” |
| 2342 | 在第 16b 欄，插入“SGG10” |
| 2343 | 在第 16b 欄，插入“SGG10” |
| 2344 PG II | 在第 16b 欄，插入“SGG10” |
| 2344 PG III | 在第 16b 欄，插入“SGG10” |
| 2353 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2356 | 在第 16b 欄，插入“SGG10” |
| 2357 | 在第 16b 欄，插入“SG35” |
| 2359 | 在第 16b 欄，插入“SG35” |
| 2361 | 在第 16b 欄，插入“SG35” |
| 2362 | 在第 16b 欄，插入“SGG10” |
| 2379 | 在第 16b 欄，插入“SGG18” |
| 2382 | 在第 16b 欄，插入“SGG18” |
| 2383 | 在第 16b 欄，插入“SG35” |
| 2386 | 在第 16b 欄，插入“SGG18” |
| 2387 | 在第 16b 欄，插入“SGG10” |
| 2388 | 在第 16b 欄，插入“SGG10” |
| 2390 | 在第 16b 欄，插入“SGG10” |
| 2391 | 在第 16b 欄，插入“SGG10” |
| 2392 | 在第 16b 欄，插入“SGG10” |
| 2395 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2399 | 在第 16b 欄，插入“SGG18” |
| 2401 | 在第 16b 欄，插入“SGG18” |
| 2407 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2426 | 在第 16b 欄，插入“SGG2” |
| 2427 PG II | 在第 16b 欄，插入“SGG4” |
| 2427 PG III | 在第 16b 欄，插入“SGG4” |
| 2428 PG II | 在第 16b 欄，插入“SGG4” |
| 2428 PG III | 在第 16b 欄，插入“SGG4” |
| 2429 PG II | 在第 16b 欄，插入“SGG4” |
| 2429 PG III | 在第 16b 欄，插入“SGG4” |

| | |
|----------------|---|
| 2434 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2435 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2437 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2438 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2439 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2440 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2441 | 在第 16b 欄，插入 “SGG7” |
| 2442 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2443 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2444 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2456 | 在第 16b 欄，插入 “SGG10” |
| 2466 | 在第 16b 欄，插入 “SGG16” |
| 2469 | 在第 16b 欄，插入 “SGG3” 和 “SGG7” |
| 2475 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2491 | 在第 16b 欄，插入 “SGG18” |
| 2495 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2496 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2502 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2503 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2504 | 在第 16b 欄，插入 “SGG10” |
| 2505 | 在第 16b 欄，插入 “SGG2” |
| 2506 | 在第 16b 欄，插入 “SGG1” 、 “SGG2” 、 “SG36” 和 “SG49” |
| 2507 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2508 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2509 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2511 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2513 | 在第 16b 欄，插入 “SGG1” 和 “SG49” |
| 2515 | 在第 16b 欄，插入 “SGG10” |
| 2526 | 在第 16b 欄，插入 “SG35” |
| 2531 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2545 | 在第 16b 欄，插入 “SGG15” |
| 2546 PG I | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 2546 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 2546 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 2547 | 在第 16b 欄，插入 “SGG16” |
| 2554 | 在第 16b 欄，插入 “SGG10” |

| | |
|----------------|--------------------------------------|
| 2556 | 在第 16a 欄，增加 “SW1” 和 “H2” |
| 2564 PG II | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2564 PG III | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2565 | 在第 16b 欄，插入 “SG35” |
| 2571 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2573 | 在第 16b 欄，插入 “SGG4” |
| 2576 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2577 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2578 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2579 | 在第 16b 欄，插入 “SGG18” |
| 2580 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2581 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2582 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2583 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2584 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2585 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2586 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2604 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2610 | 在第 16b 欄，插入 “SG35” |
| 2619 | 在第 16b 欄，插入 “SG35” |
| 2626 | 在第 16b 欄，插入 “SGG1” 和 “SG36” |
| 2627 | 在第 16b 欄，插入 “SGG12” |
| 2642 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2644 | 在第 16b 欄，插入 “SGG10” |
| 2646 | 在第 16b 欄，插入 “SGG10” |
| 2664 | 在第 16b 欄，插入 “SGG10” |
| 2670 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2671 | 在第 16b 欄，插入 “SGG18” |
| 2672 | 在第 16b 欄，插入 “SGG18” |
| 2677 PG II | 在第 16b 欄，插入 “SGG18” |
| 2677 PG III | 在第 16b 欄，插入 “SGG18” |
| 2678 | 在第 16b 欄，插入 “SGG18” |
| 2679 PG II | 在第 16b 欄，插入 “SGG18” |
| 2679 PG III | 在第 16b 欄，插入 “SGG18” |
| 2680 | 在第 16b 欄，插入 “SGG18” |

| | |
|----------------|---|
| 2681 PG II | 在第 16b 欄，插入 “SGG18” |
| 2681 PG III | 在第 16b 欄，插入 “SGG18” |
| 2682 | 在第 16b 欄，插入 “SGG18” |
| 2683 | 在第 16b 欄，插入 “SGG2” 和 “SGG18” |
| 2684 | 在第 16b 欄，插入 “SG35” |
| 2685 | 在第 16b 欄，插入 “SG35” |
| 2686 | 在第 16b 欄，插入 “SG35” |
| 2687 | 在第 16b 欄，插入 “SGG2” |
| 2688 | 在第 16b 欄，插入 “SGG10” |
| 2691 | 在第 16b 欄，插入 “SGG1” 和 “SG49” |
| 2692 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2698 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” ；在第 6 欄，插入 “973” |
| 2699 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2714 | 在第 16b 欄，插入 “SGG7” |
| 2719 | 在第 16b 欄，插入 “SGG3” |
| 2721 | 在第 16b 欄，插入 “SGG4” |
| 2723 | 在第 16b 欄，插入 “SGG4” |
| 2726 | 在第 16b 欄，插入 “SGG12” |
| 2733 PG I | 在第 16b 欄，插入 “SGG18” |
| 2733 PG II | 在第 16b 欄，插入 “SGG18” |
| 2733 PG III | 在第 16b 欄，插入 “SGG18” |
| 2734 PG I | 在第 16b 欄，插入 “SGG18” |
| 2734 PG II | 在第 16b 欄，插入 “SGG18” |
| 2735 PG I | 在第 16b 欄，插入 “SGG18” |
| 2735 PG II | 在第 16b 欄，插入 “SGG18” |
| 2735 PG III | 在第 16b 欄，插入 “SGG18” |
| 2739 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2740 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2741 | 在第 16b 欄，插入 “SGG8” |
| 2742 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2743 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2744 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |

| | |
|----------------|--|
| 2745 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2746 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2748 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2751 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2777 PG I | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2777 PG II | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2777 PG III | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2778 PG I | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2778 PG II | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2789 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2790 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2790 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2794 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2795 | 在第 16b 欄，插入“SGG18” |
| 2796 | 在第 16b 欄，插入“SGG1a”、“SG36”和“SG49” |
| 2797 | 在第 16b 欄，插入“SGG18” |
| 2798 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2799 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2800 | 在第 6 欄，刪除“29” |
| 2802 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2809 | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 2815 | 在第 16b 欄，插入“SG35” |
| 2817 PG II | 在第 16b 欄，插入“SGG1”、“SGG2”、“SG36”和“SG49” |
| 2817 PG III | 在第 16b 欄，插入“SGG1”、“SGG2”、“SG36”和“SG49” |
| 2818 PG II | 在第 16b 欄，插入“SGG2”和“SGG18” |
| 2818 PG III | 在第 16b 欄，插入“SGG2”和“SGG18” |
| 2819 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2820 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2823 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2826 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2829 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 2831 | 在第 16b 欄，插入“SGG10” |

| | |
|----------------|---|
| 2834 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2841 | 在第 16b 欄，插入 “SG35” |
| 2850 | 在第 17 欄的最後增加 “1-十二烯不是 海洋污染物” |
| 2851 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2854 | 在第 16b 欄，插入 “SGG2” |
| 2855 | 在第 16b 欄，插入 “SGG7” |
| 2859 | 在第 16b 欄，插入 “SGG2” |
| 2861 | 在第 16b 欄，插入 “SGG2” |
| 2863 | 在第 16b 欄，插入 “SGG2” |
| 2865 | 在第 16b 欄，插入 “SGG1” 、 “SG35” 、 “SG36” 和 “SG49” |
| 2869 PG II | 在第 16b 欄，插入 “SGG1” 、 “SGG7” 、 “SG36” 和 “SG49” |
| 2869 PG III | 在第 16b 欄，插入 “SGG1” 、 “SGG7” 、 “SG36” 和 “SG49” |
| 2872 PG II | 在第 16b 欄，插入 “SGG10” |
| 2872 PG III | 在第 16b 欄，插入 “SGG10” |
| 2878 | 在第 16b 欄，插入 “SGG7” 、 和 “SGG15” |
| 2879 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2880 PG II | 在第 16b 欄，插入 “SGG8” |
| 2880 PG III | 在第 16b 欄，插入 “SGG8” |
| 2881 PG I | 在第 16b 欄，插入 “SGG7” 、 和 “SGG15” |
| 2881 PG II | 在第 16b 欄，插入 “SGG7” 、 和 “SGG15” |
| 2881 PG III | 在第 16b 欄，插入 “SGG7” 、 和 “SGG15” |
| 2945 | 在第 16b 欄，插入 “SG35” |
| 2949 | 在第 16b 欄，插入 “SGG18” |
| 2950 | 在第 16b 欄，插入 “SGG15” |
| 2967 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2977 | 在第 16b 欄，插入 “SG17” 、 “SG76” 和 “SG78” |
| 2978 | 在第 16b 欄，插入 “SG17” 、 “SG76” 和 “SG78” |
| 2985 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2986 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2987 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2988 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 2989 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |
| 2989 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG9” |

| | |
|----------------|--|
| 3011 PG I | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3011 PG II | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3011 PG III | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3012 PG I | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3012 PG II | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3012 PG III | 在第 16b 欄，插入“SGG7”和“SGG11” |
| 3028 | 在第 16b 欄，插入“SGG18” |
| 3055 | 在第 16b 欄，插入“SG35” |
| 3073 | 在第 16b 欄，插入“SGG18” |
| 3078 | 在第 16b 欄，插入“SGG15” |
| 3089 PG II | 在第 16b 欄，插入“SGG7”和“SGG15” |
| 3089 PG III | 在第 16b 欄，插入“SGG7”和“SGG15” |
| 3090 | 在第 6 欄插入“387”；在第 8 欄插入“P911”、“LP905”和“LP906” |
| 3091 | 在第 6 欄插入“387”；在第 8 欄插入“P911”、“LP905”和“LP906” |
| 3101 | 在第 16b 欄，插入“SG72” |
| 3102 | 在第 16b 欄，插入“SG72” |
| 3103 | 在第 16b 欄，插入“SG72” |
| 3104 | 在第 16b 欄，插入“SG72” |
| 3106 | 在第 16b 欄，插入“SG72” |
| 3108 | 在第 16b 欄，插入“SG72” |
| 3110 | 在第 16b 欄，插入“SG72” |
| 3111 | 在第 16b 欄，插入“SG72” |
| 3112 | 在第 16b 欄，插入“SG72” |
| 3113 | 在第 16b 欄，插入“SG72” |
| 3114 | 在第 16b 欄，插入“SG72” |
| 3115 | 在第 16b 欄，插入“SG72” |
| 3116 | 在第 16b 欄，插入“SG72” |
| 3117 | 在第 16b 欄，插入“SG72” |
| 3118 | 在第 16b 欄，插入“SG72” |
| 3119 | 在第 16b 欄，插入“SG72” |
| 3120 | 在第 16b 欄，插入“SG72” |
| 3149 | 在第 16b 欄，插入“SGG16” |
| 3166 | 在第 6 欄，刪除“312”，刪除“380”，刪除“385”和插入“388” |

| | |
|----------------|--------------------------------------|
| 3170 PG II | 在第 16b 欄，插入 “SGG15” |
| 3170 PG III | 在第 16b 欄，插入 “SGG15” |
| 3171 | 在第 6 欄，刪除 “240” 和插入 “388” |
| 3174 | 在第 16b 欄，插入 “SGG7” |
| 3181 PG II | 在第 16b 欄，插入 “SGG7” |
| 3181 PG III | 在第 16b 欄，插入 “SGG7” |
| 3189 PG II | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 3189 PG III | 在第 16b 欄，插入 “SGG7” 和 “SGG15” |
| 3211 PGII | 在第 16b 欄，插入 “SGG13” |
| 3211 PGIII | 在第 16b 欄，插入 “SGG13” |
| 3212 | 在第 16b 欄，插入 “SGG8” |
| 3213 PG II | 在第 16b 欄，插入 “SGG3” |
| 3213 PG III | 在第 16b 欄，插入 “SGG3” |
| 3214 | 在第 16b 欄，插入 “SGG14” |
| 3219 PG II | 在第 16b 欄，插入 “SGG12” ” |
| 3219 PG III | 在第 16b 欄，插入 “SGG12” ” |
| 3223 | 在第 9 欄，增加 “PP94 PP95” |
| 3224 | 在第 9 欄，增加 “PP94 PP95” |
| 3246 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3250 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3253 | 在第 16b 欄，插入 “SGG18” |
| 3255 | 在第 16b 欄，插入 “SGG8” |
| 3259 PG I | 在第 16b 欄，插入 “SGG18” |
| 3259 PG II | 在第 16b 欄，插入 “SGG18” |
| 3259 PG III | 在第 16b 欄，插入 “SGG18” |
| 3260 PG I | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3260 PG II | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3260 PG III | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3261 PG I | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |

| | |
|----------------|---------------------------------|
| 3261 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3261 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3262 PG I | 在第 16b 欄，插入“SGG18” |
| 3262 PG II | 在第 16b 欄，插入“SGG18” |
| 3262 PG III | 在第 16b 欄，插入“SGG18” |
| 3263 PG I | 在第 16b 欄，插入“SGG18” |
| 3263 PG II | 在第 16b 欄，插入“SGG18” |
| 3263 PG III | 在第 16b 欄，插入“SGG18” |
| 3264 PG I | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3264 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3264 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3265 PG I | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3265 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3265 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3266 PG I | 在第 16b 欄，插入“SGG18” |
| 3266 PG II | 在第 16b 欄，插入“SGG18” |
| 3266 PG III | 在第 16b 欄，插入“SGG18” |
| 3267 PG I | 在第 16b 欄，插入“SGG18” |
| 3267 PG II | 在第 16b 欄，插入“SGG18” |
| 3267 PG III | 在第 16b 欄，插入“SGG18” |
| 3277 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3293 | 在第 16b 欄，插入“SGG18” |
| 3302 | 在第 2 欄，名稱後增加“穩定的”；在第 6 欄增加“386” |
| 3316 PG II | 在第 5 欄，刪除“II” |
| 3316 PG III | 刪除這個條目 |
| 3318 | 在第 16b 欄，插入“SGG18” |
| 3320 PG II | 在第 16b 欄，插入“SGG18” |

| | |
|----------------|---------------------------------------|
| 3320 PG III | 在第 16b 欄，插入 “SGG18” |
| 3332 | 在第 15 欄，將 “S-S” 替換為 “S-S” |
| 3333 | 在第 15 欄，將 “S-S” 替換為 “S-S” |
| 3360 | 在第 6 欄，插入 “973” |
| 3361 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3362 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3375 | 在第 16b 欄，插入 “SGG2” |
| 3377 | 在第 16b 欄，插入 “SGG16” |
| 3378 PG II | 在第 16b 欄，插入 “SGG16” |
| 3378 PG III | 在第 16b 欄，插入 “SGG16” |
| 3401 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 3402 | 在第 16b 欄，插入 “SGG7” 和 “SGG11” |
| 3405 PG II | 在第 16b 欄，插入 “SGG4” |
| 3405 PG III | 在第 16b 欄，插入 “SGG4” |
| 3406 PG II | 在第 16b 欄，插入 “SGG13” |
| 3406 PG III | 在第 16b 欄，插入 “SGG13” |
| 3407 PG II | 在第 16b 欄，插入 “SGG4” |
| 3407 PG III | 在第 16b 欄，插入 “SGG4” |
| 3408 PG II | 在第 16b 欄，插入 “SGG7” 、 “SGG9” 和 “SGG13” |
| 3408 PG III | 在第 16b 欄，插入 “SGG7” 、 “SGG9” 和 “SGG13” |
| 3412 PG II | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3412 PG III | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |
| 3413 PG I | 在第 16b 欄，插入 “SGG6” |
| 3413 PG II | 在第 16b 欄，插入 “SGG6” |
| 3413 PG III | 在第 16b 欄，插入 “SGG6” |
| 3414 PG I | 在第 16b 欄，插入 “SGG6” |
| 3414 PG II | 在第 16b 欄，插入 “SGG6” |
| 3414 PG III | 在第 16b 欄，插入 “SGG6” |
| 3419 | 在第 16b 欄，插入 “SGG1” 、 “SG36” 和 “SG49” |

| | |
|----------------|--|
| 3420 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3421 PG II | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3421 PG III | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3423 | 在第 16b 欄，插入“SGG2”和“SGG18” |
| 3424 PG II | 在第 16b 欄插入“SGG2” |
| 3424 PG III | 在第 16b 欄，插入“SGG2” |
| 3425 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3449 | 在第 16b 欄，插入“SGG6” |
| 3453 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3456 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3463 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3472 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3480 | 在第 6 欄，插入“387”；在第 8 欄插入“P911”、“LP905”和“LP906” |
| 3481 | 在第 6 欄，插入“387”；在第 8 欄插入“P911”、“LP905”和“LP906” |
| 3483 | 在第 16b 欄，插入“SGG7”和“SGG9” |
| 3484 | 在第 16b 欄，插入“SGG18” |
| 3485 | 在第 16b 欄，插入“SGG8” |
| 3486 | 在第 16b 欄，插入“SGG8” |
| 3487 PG II | 在第 16b 欄，插入“SGG8” |
| 3487 PG III | 在第 16b 欄，插入“SGG8” |
| 3496 | 在第 17 欄，現有的句子替換如下“鎳金屬氫鈕扣電池以及包裝或含在設備中鎳金屬氫電池或電池組不適用於本規則的規定。” |
| 3498 | 在第 16b 欄，插入“SGG1”、“SG36”和“SG49” |
| 3507 | 在第 16b 欄，插入“SG77” |

將如下條目增加到危險貨物一覽表中

| (1) | (2) | (3) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16a) | (16b) | (17) |
|------|---------------------------------------|-----|--------------|-----|------------|-------|------|--------------|-----|-------|-----------|------|------|----------|--------------|-------|--|--------------------------------------|
| 3535 | 有毒固體，易燃的，無機 的，未另列明的 | 6.1 | 4.1 | I | 274 | 0 | E5 | P002 | - | IBC99 | - | T6 | TP33 | F-A, S-G | 積載類 B | - | 吞咽、皮膚接觸 或粉塵吸入有 毒。 | |
| 3535 | 有毒固體，易燃的，無機 的，未另列明的 | 6.1 | 4.1 | II | 274 | 500 g | E4 | P002 | - | IBC08 | B4 B21 | T3 | TP33 | F-A, S-G | B | - | 見上述條目 | |
| 3536 | 安裝在貨物運輸組件中 的鋰電池組，鋰離子電池 組或鋰金屬電池組 | 9 | | - | 389 | 0 | E0 | - | - | - | - | - | - | F-A, S-I | 積載類 A | - | 被設計為移動供 電裝置，含有鋰 金屬或鋰離子電 池的貨物運輸組 件。 | |
| 3537 | 含有易燃氣體的物品，未 另列明的 | 2.1 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | F-D, S-U | 積載類 D SW2 | - | - | - |
| 3538 | 含有非易燃、無毒氣體的 物品，未另列明的 | 2.2 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | F-C, S-V | 積載類 A | - | - | - |
| 3539 | 含有毒氣體的物品，未另 列明的 | 2.3 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | F-C, S-U | - | - | - | - |
| 3540 | 含有易燃液體的物品，未 另列明的 | 3 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | F-E, S-D | 積載類 B | - | - | - |
| 3541 | 含有易燃固體的物品，未 另列明的 | 4.1 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | F-A, S-G | 積載類 B | - | - | - |
| 3542 | 含有易自然物質的物品， 未另列明的 | 4.2 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | * | - | - | - | *發火物質：F- G, S-M，自熱物 質：F-A, S-J |
| 3543 | 含有遇水放出易燃氣 體的物質的物品，未另列 明的 | 4.3 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | F-G, S-N | - | - | - | - |

| (1) | (2) | (3) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16a) | (16b) | (17) |
|------|-------------------|-----|-----------|-----|------------|------|------|--------------|-----|------|------|------|------|------|----------|-------------------|-------|--|
| 3544 | 含有氧化性物質的物品，未另列明的 | 5.1 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-A, S-Q | - | - | - |
| 3545 | 含有有機過氧化物的物品，未另列明的 | 5.2 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-J, S-R | - | - | - |
| 3546 | 含有有毒物質的物品，未另列明的 | 6.1 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-A, S-A | 積載類 B SW2 * | - | 吞咽、皮膚接觸或粉塵吸入有毒。 *當依據特殊規定 391 需要有關當局批准時，有關當局應對積載和操作要求做出規定。 |
| 3547 | 含有腐蝕性物質的物品，未另列明的 | 8 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-A, S-B | 積載類 B SW2 | - | 灼傷皮膚、眼睛和黏膜。 |
| 3548 | 含有雜類危險貨物的物品，未另列明的 | 9 | 見 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-A, S-P | 積載類 A | - | - |

第 3.3 章 特殊規定

3.1.1 在第三句話中，將“損壞的鋰電池”替換為“待處置的鋰電池”。

SP29 修改為：

“29 已標明類別（例如：“第 4.2 類”）的包件，包括捆裝可免除其標誌。”

SP63 “風險”替換為“危險”。

SP122 “風險”替換為“危險”。

SP133 “風險”替換為“危險”。

SP172 “風險”替換為“危險”。

SP181 “風險”替換為“危險”。

SP186 刪除。

SP188 在第.3 分段中，將“2.9.4.1 和 2.9.4.5”替換為“2.9.4.1，2.9.4.5，2.9.4.6（如適用）和 2.9.4.7”

在第.4 分段中，“風險”替換為“危險”。

在第.5 分段中，在末尾新增

“當包件被置於集合包件中，鋰電池標記須清晰可見或者在集合包件外部張貼，且集合包件須標記“OVERPACKED”字樣。“OVERPACKED”字體的高度須至少為 12mm。”

在.6 中，把現有的“註”改為“註 1”，並新增“註 2”

“註 2：裝有符合 ICAO《危險貨物航空安全運輸技術導則》1B 部分包裝導則 965 或者 968 中第 11 章第 4 部分規定的鋰電池組的包件，註明 5.2.1.10（鋰電池組標記）和 5.2.2.2.2 中 Model No. 9A 標誌，可視為滿足本特殊規定的要求。”

在.8 中，第一段最後新增

“本特殊規定中的“設備”是指鋰電池或者鋰電池組為其運行提供電力的設備。”

SP193 修改為

“193 本條目僅可用於硝酸銨基化肥，並須根據《試驗和標準手冊》第三部分第 39 節中的程序進行分類。”

SP204 “風險”替換為“危險”。

SP240 刪除。

SP251 在第一段中，將最後一句話替換為：

“這種容器只能盛裝滿足以下條件的危險貨物：

- .1 限量不超過 3.2 章危險貨物一覽表中 7b 欄規定的量，按照 3.5.1.2 和 3.5.1.3 中規定的內包裝中貨物的淨重和每個包件中貨物的淨重
- .2 第 3.2 章危險貨物一覽表中 7a 欄中規定的限量，每個內包裝中貨物的淨含量不超過 250ml 或者 250g。”

在第二段刪除最後一句話。

在第三段，段首新增：

“為使 5.4.1.4.1 中危險貨物運輸單證完整，單證中顯示的包裝類須是容器中所有物質中被分配的包裝類中最嚴格的。”

SP271 “風險” 替換為 “危險” 。

SP290 “風險” 替換為 “危險” 。

SP293 “風險” 替換為 “危險” 。

SP296 “風險” 替換為 “危險” 。

SP301 在開頭，將 “物質” 替換為 “貨物” 。將第五和第六句修改為：

“如果機器或設備中含有不止一種危險貨物，則每種危險貨物都須密閉以防止它們在運輸過程中相互間發生危險的反應（見 4.1.1.6）。如須確保液體危險貨物按照設定的方向，方向箭頭按照 5.2.1.7.1 的規定須在至少兩個對立的垂直面上顯示。”

刪除最後一句話。

SP307 修改為：

“307 本條目僅可用於硝酸銨基化肥，並須根據《試驗和標準手冊》第三部分第 39 節中的程序進行分類。”

SP308 修改為

“308* 魚粉穩定劑的使用須通過在生產時有效使用乙氧基喹啉、BHT（丁基羥基甲苯）或生育酚（還與迷迭香提取物混合使用）達到防止自熱的目的。穩定劑的使用須在運輸前十二個月以內。魚渣或魚粉在運輸時須至少含有 50ppm（mg/kg）乙氧基喹啉、100ppm（mg/kg）的 BHT 或 250ppm（mg/kg）生育酚基抗氧化劑。”，

新增對應的*腳註

“* 散裝運輸的魚粉，參見《IMSBC 規則》。”

SP310 在第 1 段，將“電池和電池組”替換為“電池或電池組”，替換兩次。在末尾新增“或 4.1.4.3 中大宗包裝 905 的規定（如適用）”。

SP312 刪除。

SP362 “風險”替換為“危險”。

SP363 新增如下引導性語句：

“只有在滿足本特殊規定的情況下才能使用該條目。無須遵守除特殊規定 972、第 7 章和危險貨物一覽表第 16a 和 16b 欄外的任何其他規定。”

第.7 分段替換為：

“.7 發動機或機器，包括其中危險貨物的盛載方式，須符合有關當局的構造要求。

.8 任何閥門或開口（如，通風裝置）在運輸過程中須關閉。

.9 機器或設備，須朝向能防止危險貨物意外泄漏的方向加以緊固，確保能夠限制機器或設備在運輸過程中發生任何移動致使改變方向或造成損壞。

.10 對於 UN3528 和 UN3530：

- 發動機或機器含有大於 60L 液體燃料且容量不大於 450 升的情況下，須適用 5.2.2 的標誌規定。
- 發動機或機器含有大於 60L 液體燃料且容量大於 450 升但

不大於 3000 升，須按照 5.2.2 在兩個對立的表面貼上標誌。

- 發動機或機器含有大於 60L 液體燃料且容量大於 3000 升，須按照 5.3.1.1.2 的要求在兩個對立的表面張貼標牌。
- 除以上規定外，對 UN3530，發動機或機器含有大於 60L 液體燃料且容量不大於 3000L，適用 5.2.1.6 的標記規定；發動機或機器含有大於 60L 液體燃料且容量大於 3000L，適用 5.3.2.3.2 的標記規定。

.11 對於 UN3529：

- 發動機或機器的燃料箱容量不大於 450 升，須按照 5.2.2 的規定進行標記。
- 發動機或機器的燃料箱容量大於 450 升但不大於 1000 升，須按照 5.2.2 的規定在兩個對立的表面張貼標記。
- 發動機或機器的燃料箱容量大於 1000 升，須按照 5.3.1.1.2 的規定在兩個對立的表面張貼標牌。

.12 運輸單證須含有下列額外的聲明“按照特殊規定 363 的要求運輸”。

.13 4.1.4.1 須滿足中包裝導則 P005 的要求。”

SP369 “風險” 替換為 “危險”。

SP376 將第三段以後的部分修改為：

“電池和電池組須按照 4.1.4.1 中 P908 或 4.1.4.3 中 LP904 進行包

裝。

損壞的、有缺陷的、易快速分解、發生危險反應、產生火焰或過熱、或存在有毒、腐蝕、易燃氣體或蒸氣釋放危險的電池和電池組須根據 4.1.4.1 中包裝導則 P911 或者 4.1.4.3 中包裝導則 P906 進行包裝和運輸。替代的包裝或者運輸條件可由主管機關批准。

按照 5.2.1 的規定，包件除須標記正確運輸名稱外，還須標記“DAMAGED/DEFECTIVE”字樣。

運輸單證須包含“Transport in accordance with special provision 376”。

如適用，主管機關批准文件的複印本須隨船攜帶。”

SP377 在末尾新增：

“運輸單證須包含“Transport in accordance with special provision 377”字樣。

SP380 刪除。

SP384 刪除註釋。

SP385 刪除。

SP907 將“必須超過 100mg/kg”替換為“見特殊規定 308”。

SP943 “風險”替換為“危險”。

SP945 刪除。

SP959 “風險”替換為“危險”。

SP961 在第.1 分段中將“2.9.4.1”替換為“2.9.4.1 和 2.9.4.7”。

SP962 在第.4 分段中將“2.9.4.1”替換為“2.9.4.1 和 2.9.4.7”。

SP963 將第一句話替換為

“鎳氫鈕扣電池或安裝或包含在設備中的鎳氫電池或電池組不適用不能規則的規定。”

SP972 將“2.9.4.1”替換為“2.9.4.1 和 2.9.4.7”。

新增如下特殊規定：

“387 符合 2.9.4.6 的鋰電池組包括一次性鋰離子電池和可充電鋰離子電池，應分配給 UN3090 或 UN3091。當以上電池組按照特殊規定 SP 188 運輸時，電池組中所有鋰金屬電池的鋰含量須不超過 1.5 克，且電池組中所有鋰離子電池的總容量須不超過 10Wh。”。

“388 UN3166 適用於由燃燒易燃液體或易燃氣體的內燃機或燃燒易燃液體或易燃氣體的燃料電池驅動的車輛。

燃料電池引擎驅動的車輛須被劃為 UN3166 燃料電池車輛，易燃液體驅動的或 UN3166 燃料電池車輛，易燃氣體驅動的。這些條目包括了在安裝電池運輸的情況下，由燃料電池和包括濕電池組、鈉電池組、鋰金屬電池組或鋰離子電池組的內燃機驅動的混合動力電動車輛。

其他含有內燃機的車輛須被劃為 UN3166 車輛，易燃氣體驅動的或者 UN3166 車輛，易燃液體驅動的。這些條目包括了在安裝電池運輸的情況下，以內燃機和濕電池組、鈉電池組、鋰金屬電池組或鋰離子電池組共同提供動力的混合動力電動車輛。如果車輛由易燃氣體和易燃液體內燃機驅動，則

須被劃為 UN3166 車輛，易燃氣體驅動的。

UN3171 條目僅適用於由濕電池組、鈉電池組、鋰金屬電池組或鋰離子電池組驅動的車輛和在安裝電池運輸情況下的由濕電池組或鈉電池組驅動的設備。

就此特殊規定而言，車輛是自推進式裝置，用於運載一人或多人，或用於運載貨物。這類車輛的例子有電動汽車、摩托車、輕騎、三輪或四輪車輛或摩托車、卡車、車頭、自行車（由電機驅動的腳踏車）和其他此類車輛（如平衡車或沒有座位的車輛）、輪椅、打草機、自推進農用和建築用設備、船隻和飛機。這裏包含了在包件中運輸的車輛。此情形下車輛的零件可以與它的主體框架分離來裝進包件中。

這類設備的例子有剪草機、清潔機或船隻模型或飛機模型。以鋰金屬電池組或鋰離子電池組為動力的設備，應根據情況，按 UN3091，裝在設備中的鋰金屬電池組，或 UN3091，同設備包裝在一起的鋰金屬電池組，或 UN3481，裝在設備中的鋰離子電池組，或 UN3481，同設備包裝在一起的鋰離子電池組的規定交運。

對於車輛操作或操作人員或旅客安全必須的危險貨物，諸如電池、安全氣囊、滅火器、壓縮氣罐、安全裝置，和其他車輛的整體部件須緊固地安裝於車輛上。此時，這些危險貨物無須遵守本規則其他要求。”

- “389 本條目僅適用於安裝在貨物運輸組件中的鋰離子電池組或者鋰金屬電池組，並且僅設計用於向貨物運輸單元外部提供動力。鋰電池組須滿足 2.9.4.1 到.7 的規定，且有必要的系統來阻止電池組之間的過度充電或過度放電。

電池組須牢固地連接在貨物運輸組件的內部結構中（例如置於架子或櫃子中），以防止貨物運輸組件在意外衝擊、裝載、運輸中發生振動的情況下，電池組發生短路、意外操作或顯著位移。貨物運輸組件安全正常操作中必須的危險貨物（如滅火系統和空調系統）須妥善地繫固或安裝在貨物運輸單元中，此時，這些危險貨物無須遵守本規則其他要求。貨物運輸組件安全正常操作中非必須的危險貨物禁止在貨物運輸組件內運輸。

貨物運輸組件中的電池組不需要遵守標記和標誌的規定。貨物運輸組件須根據 5.3.2.1.2 的規定標註 UN 號，且根據 5.3.1.1.2 的規定在兩個對立面張貼標牌。”

“391 含有 2.3 類、4.2 類、4.3 類、5.1 類、5.2 類或吸入毒性包裝類 I 的 6.1 類物質的物品，或者含有一種以上的在 2.0.3.4.2 和 2.0.3.4.4 中列明危險性的物質的物品，其運輸條件須由主管機關批准。”

“392 對於設計和批准安裝在含有氣體燃料的機動車輛中的氣體燃料儲存系統的運輸，當運輸、回收、修理、檢查、維護或由產地向裝配廠進行運輸時，如果滿足以下條件，則不適用本規則 4.1.4.1 和 6.2 的規定。

.1 如果適用的話，燃料儲存系統須滿足車輛燃料箱的標準。例如適用的標準和法規如下：

| | |
|-----------------------|----------------------------|
| LPG 罐櫃 | |
| ECE Regulation No. 67 | 統一規定：1. 推進系統中使用液化石油氣的 M 類和 |

| | |
|--|---|
| Revision 2 | N 類車輛的專用設備的批准；II. 在安裝此類設備時，對裝有推進設備的液化石油氣的專用設備的 M 類和 N 類車輛的批准。 |
| ECE Regulation No. 115 | 批准的統一規定：I. 推進系統中使用 LPG 的機動車輛中安裝的專用的 LPG 改進系統；II. 推進系統中使用 CNG 的機動車輛中安裝的專用的 CNG 改進系統。 |
| CNG 罐櫃 | |
| ECE Regulation No. 110 | 統一規定：I. 推進系統中使用 CNG 或 LNG 的機動車輛的專用部件；II. 推進系統中使用 CNG 或 LNG 的車輛中經批准的專用設備的安裝。 |
| ECE Regulation No. 115 | (批准的統一規定：I. 推進系統中使用 LPG 的機動車輛中安裝的專用的 LPG 改進系統；II. 推進系統中使用 CNG 的機動車輛中安裝的專用的 CNG 改進系統。) |
| ISO 11439: 2013 | 氣瓶 – 作為車輛燃料的存儲天然氣的車載高壓容器 |
| ISO 15500-Series | ISO 15500：公路車輛 – CNG 燃料部件 – 使用的很多部分 |
| ANSI NGV 2 | CNG 車輛燃油箱 |
| CSA B51 Part 2: 2014 | 鍋爐、壓力容器和壓力管道規則 第二部分 機動車輛車載燃料用高壓容器的要求 |
| 氫氣壓力罐櫃 | |
| Global Technical Regulation (GTR) No. 13 | 氫燃料電池全球技術法規 (ECE/TRANS/180/Add.13) |
| ISO/TS 15869:2009 | 氫氣和氫氣混合物 – 陸地車輛燃料箱 |
| Regulation (EC) No.79/2009 | 歐洲議會和理事會 2009 年 1 月 14 日關於氫動力汽車型中認可的 No.79/2009，以及 2007/46/EC 修正指令。 |
| Regulation (EU) No.406/2010 | 歐盟 2010 年 4 月 26 日第 406/2010 號法規以及歐洲議會和歐洲理事會第 79/2009 號關於氫動力汽車型 |

| | |
|-----------------------|---|
| | 式批准的實施條例。 |
| ECE Regulation No.134 | 氫和燃料電池車裏（HFCV） |
| CSA B51 Part 2: 2014 | 鍋爐、壓力容器和壓力管道規則 第二部分 機動車輛車載燃料用高壓容器的要求 |

根據之前標準或規範設計建造的機動車氣體燃料箱，且在新標準出台時已經投入使用的，可以繼續運輸。

- .2 氣體燃料存儲系統須防泄漏，且不能出現任何可能影響安全的外部損壞跡象。

註 1：相關標準參見 ISO 11623：2015 *可運輸氣瓶：複合氣瓶的定期檢驗和試驗*（或者 ISO 19078：2013 *儲氣瓶 – 氣瓶安裝檢測和天然氣作燃料的機動車車上儲存用高壓儲氣瓶的再認定*）。

註 2：如果氣體燃料存儲系統不是防泄漏的，或者出現溢出，或者顯示出可能影響其安全性的損害（例如在安全相關召回的情況下），則它們須根據規則僅在救助壓力容器中運輸。

- .3 如果氣體燃料存儲系統在管線中裝有兩個或以上的閥門，則在正常運輸情況下閥門須關閉以保持氣密。如果僅有一個閥門或者僅有一個閥門工作，則在正常運輸情況下，僅壓力釋放裝置允許開啟，其他所有開口須關閉以保持氣密。
- .4 氣體燃料存儲系統在運輸中須防止對壓力釋放裝置造成堵塞，或對閥門和其他氣體燃料儲存系統加壓部分的損壞，或在正常運輸條件下氣體的意外泄露。氣體燃料系

統須牢固安裝以防止鬆動、旋轉或滾動。

- .5 閥門須使用 4.1.6.1.8.1 至 4.1.6.1.8.5 中的一種保護措施。
- .6 除氣體燃料儲存系統用於處理、回收、修理、檢查或維護外，其內部盛裝的燃料須不超過正常填充率或正常工作壓力的 20%。
- .7 儘管第 5.2 章有相關規定，當在氣體燃料存儲系統被置於處理裝置中時，標誌和標記可在處理裝置上黏貼；
- .8 儘管有 5.4.1.5 的規定，危險貨物總量的信息可由以下信息取代：
 - .1 氣體燃料存儲系統的數量；
 - .2 如果是液化氣，每個燃料氣體存儲系統中氣體的總淨重量（kg）。如果是壓縮氣體，每個燃料氣體存儲系統中正常工作壓力下的總容量（l）。

運輸單證中信息的實例：

例 1：“UN1971 天然氣，壓縮的，2.1,1 個總體積為 50l 的氣體燃料存儲系統，200bar”。

例 2：“UN1965 烴類氣體混合物，液化的，n.o.s，2.1,3 個氣體燃料存儲系統，每個系統的氣體淨重為 15kg”。

“973 除了捆裝之外，包件按照 5.2.1 還須顯示所含物質正確運輸名稱和聯合國編號。任何情況下，如果包件裝載在一個貨物

運輸組件並且其所含的貨物僅有一個聯合國編號時，該包件（包括捆裝的）可免除分類標記。裝有該包件（包括捆裝的）貨物運輸組件按 5.3 章規定須貼相關標誌、標牌和標記。”

“974 這些物質可用 IMO 9 型罐櫃運輸。”

第 3.4 章

限量包裝危險貨物

3.4.6 單證

3.4.6.1 用“危險貨物運輸單證”替換“危險貨物聲明”。

第 3.5 章

例外數量包裝危險貨物

3.5.6 單證

3.5.6.1 用“危險貨物運輸單證”替換“危險貨物聲明”。

第 4 部分

包裝和罐櫃規定

第 4.1 章

包裝（包括中型散裝容器（IBCs）和大宗包裝）的使用

4.1.4 包裝導則一覽表

4.1.4.1 有關包裝使用的包裝導則（不包括中型散裝容器和大宗包裝）

P001 在“複合包裝”項下，第一行，用“塑料容器，置於鋼、鋁或塑料桶內（6HA1，6HB1，6HH1）”替換“塑料容器，置於鋼或鋁桶內（6HA1，6HB）”；第二行，用“塑料容器，置於纖維或膠合板桶內（6HG1，6HD1）”替換“塑料容器，置於纖維、塑料或膠合板桶內（6HG1，6HH1，6HD1）”。

P101 用“在國際道路通行的車輛所用的識別標誌”替換“在國際間通行的機動車輛所用的國家識別標誌”。

標註*內容如下：

“* 在國際道路通行的機動車輛和拖車所用的國家註冊識別標誌，例如遵守 1949 年日內瓦道路交通公約或 1968 年維也納道路交通公約。”

P200 第（3）段（e）中第一段用“液化氣體”替換“液相”。在（i）子段中，用“液化氣體”替換“液體成分”。在（iv）子段中，用“液化氣體”替換“液體成分”。在（v）子段中，用“液化氣體”替換“液體成分”。在最後一段中，用“液相”替換“液體成分”。在表 1、2 和 3 中表頭第 4 欄，用“風險”（risk）替換為“危險”。

P203 第 7 段，“風險”替換為“危險”。

P206 第(3)段中第一段，用“液化氣體”替換“液相”。在(a)子段，用“液化氣體”替換“液體成分”。在(d)子段，用“液化氣體”替換“液體成分”。在(e)子段，用“液化氣體”替換“液體成分”。在最後一段中，用“液相”替換“液體成分”。

P208 在表1中表頭第4欄，“風險”替換為“危險”。

P403 在特殊包裝規定PP31中刪除“除了固體熔融材料”。

P410 表註(4)替換如下：

“對於包裝類II的物質，這些包裝僅可用於在封閉貨物運輸組件中運輸。”

P520 補充規定4，“風險”替換為“危險”。此外，增加下述新特殊包裝規定PP94和PP95。

“PP94 如適用，滿足下述規定的第2.0.4.3節所述非常小量的高能樣品可在UN3323或UN3324條目下運輸：

- .1 僅適用帶有外包裝的組合包裝，包括箱(4A、4B、4N、4C1、4C2、4D、4F、4G、4H1、4H2)；
- .2 樣品裝在塑料、玻璃、瓷或陶製微量滴定板或多功能滴定板的內包裝中，
- .3 每個內腔最大量不超過固體0.01克或液體0.01毫升；
- .4 每個外包裝的最大淨含量為固體20克或液體20毫升，或者混合包裝的克和毫升總量之和不超過20；
- .5 當有選擇地使用乾冰或液氮作為冷卻劑作為品質控制方法時，遵守5.5.3的規定。內部支撐須確保內包裝在初始位置。在使

用製冷劑時的溫度和失去製冷劑時可能導致的溫度和壓力下，
內包裝和外包裝須保持完整。

PP95 如適用，滿足下述規定的第 2.0.4.3 節所述小量的高能樣品可在 UN3323 或 UN3324 條目下運輸：

- .1 外包裝僅可由 4G 型瓦楞纖維板構成，其最小尺寸為長 60 厘米、寬 40.5 厘米、高 30 厘米，最小壁厚 1.3 厘米；
- .2 裝在玻璃或塑料內包裝中的單個物質最大容量為 30 毫升，置於最小厚度為 130 毫米、密度 $18\pm 1\text{g/l}$ 的可延伸聚乙烯泡沫基質內。
- .3 在泡沫容器內，內包裝彼此間最小距離為 40 毫米，距外包裝壁最小距離為 70 毫米。每個包件可最多裝兩層這種泡沫基質，每個基質最多裝 28 個內包裝。
- .4 每個內包裝最大量不超過固體 1 克或液體 1 毫升
- .5 每個外包裝的最大淨含量為固體 56 克或液體 56 毫升，或者混合包裝的克和毫升總量之和不超过 56；
- .6 當有選擇地使用乾冰或液氮作為冷卻劑作為品質控制方法時，遵守 5.5.3 的規定。內部支撐須確保內包裝在初始位置。在使用製冷劑時的溫度和失去製冷劑時可能導致的溫度和壓力下，內包裝和外包裝須保持完整。

P620 在補充規定 3 末尾，刪除“及 -40°C 至 $+55^{\circ}\text{C}$ 的溫度變化”，增加下述新句子：“主容器或輔助包裝須能夠經受得住 -40°C 至 $+55^{\circ}\text{C}$ 的溫度變化”。

P801 在補充規定 2 中，用“非導電”替換“非傳導”。

- P901 在“補充要求”下，刪除“不超過 205 毫升或 250 克和須”。
- P902 在“無包裝物品”下的段落中，句尾修改為“在製造廠和包括中間操作點的組裝廠間的運輸。”
- P903 在引導句“下述包裝……”前插入如下新句子“對於本包裝導則，設備係指由電池組或電池提供電能運轉的儀器。第（3）段刪除最後一句。
- P906 第（2）段在引導局和（b）子段中，用“物品”替換“裝置”三次。
- P907 在開始處，以下述句子增加一個新表欄：
“本導則適用於 UN3363。”
- P908 在段落（2）和（4）中，用“非導電”替換“非傳導”。
- P909 在（1）（c）和（2）（b）段、補充規定 2 第四個縮進和補充規定 3 中，用“非導電”替換“非傳導”。
- P910 引導句中，用“電池或電池組”替換“電池和電池組”兩次。在（1）（c）、（1）（d）和（2）（c）段、補充規定第四個縮進中，用“非導電”替換“非傳導”。

插入下述新包裝導則：

| P006 | 包裝導則 | P006 |
|--|------|------|
| 本導則適用於 UN3537、3538、3540、3541、3546、3547 和 3548。 | | |
| （1）若符合 4.1.1 和 4.1.3 的一般規定，認可下列包裝： <ul style="list-style-type: none"> 桶（1A2、1B2、1N2、1H2、1D、1G）； 箱（4A、4B、4N、4C1、4C2、4D、4F、4G、4H1、4H2）； 罐（3A2、3B2、3H2）。 | | |

包裝須符合包裝類 II 的性能指標。

(2) 此外，對於堅固的物品認可下列包裝：

由適合的材料、足夠的強度和設計構成的堅固外包裝，並與其包裝容量和預期用途相適應。為達到至少與 6.1 章規定等效的保護水平，包裝須滿足 4.1.1.1、4.1.1.2、4.1.1.8 和 4.1.3 的規定。當物品能對其內部的危險貨物提供等效的保護，物品可以無包裝或在托盤上運輸。

(3) 此外，須滿足下述條件：

- (a) 在物品內裝有液體或固體的容器須由適合的材料構成，並繫固在物品內，使其在正常運輸條件下，不能破損、刺破或泄露內容物到物品或外包裝內。
- (b) 盛裝液體並帶有關閉裝置的容器須按照關閉裝置的正確方向進行包裝。容器還須符合 6.1.5.5 內壓測試的規定。
- (c) 由玻璃、瓷、陶或特定塑料材料製成的容易刺破或破損的容器，須正確地進行繫固。任何內容物的泄露須不影響物品或外包裝的保護性能。
- (d) 在物品內盛裝氣體的容器須滿足 4.1.6 節的規定、適用時第 6.2 章的規定或能夠提供與包裝導則 P200 或 P208 相同水平的保護。
- (e) 當物品內沒有容器時，物品須能將危險貨物完全裝入，並防止其在正常運輸條件下的釋放。

(4) 物品的包裝須能防止正常運輸條件下的移動和疏忽操作。

| P911 | 包裝導則 | P911 |
|--|------|------|
| <p>本導則適用於 UN3090、3091、3480 和 3481 損壞或有缺陷的電池和電池組，其在正常運輸條件下易於快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽。</p> | | |

若符合 4.1.1 和 4.1.3 的一般規定，認可下列包裝：

對於電池、電池組及含有電池和電池組的設備：

桶（1A2、1B2、1N2、1H2、1D、1G）；

箱（4A、4B、4N、4C1、4C2、4D、4F、4G、4H1、4H2）；

罐（3A2、3B2、3H2）。

包裝須符合包裝類 I 的性能指標。

（1）包裝須能夠滿足下述附加性能要求，以防止電池或電池組快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽：

（a）整個包裝的外表面溫度須不能超過 100 度。溫度瞬間峰值達到 200 度可以接受；

（b）火焰須不能產生在包裝外部；

（c）須沒有拋射物能離開包裝；

（d）包裝結構的完整性須能保持；

（e）如適用，包裝須有一個氣體管理系統（例如過濾系統、空氣循環、氣體收容、氣密包裝等）。

（2）補充包裝性能要求須經主管機關認可的試驗證明。

需要時須能得到證明報告。作為最小的要求，證明報告須列出電池或電池組名稱、電池或電池組數量、總重、型號、電池或電池組能量容量、包裝標識和按照經主管機關認可的證明方法得到的試驗數據。

（3）當使用乾冰或液氮做製冷劑時，須遵守 5.5.3 節的規定。在使用製冷劑時的溫度和失去製冷劑時可能導致的溫度和壓力下，內包裝和外包裝須保持完整。

補充規定

電池或電池組須能夠防止短路。

^a 如果相關，下述標準可考慮用於評估包裝的性能：

- (a) 評估須在一個質量管理系統下進行（如 2.9.4.5 節所述），允許可追溯的試驗結果、參考數據和使用特性描述模型；
- (b) 預期防止電池或電池組在正常運輸條件下（例如使用內包裝、充電狀態、使用充足的不可燃、不導電和吸收緩衝材料等）熱逸潰的危害清單，須清晰地識別和確定；鋰電池或電池組可能危害（快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽）參考清單可用於此目的。這些危害的數量須依據有價值的科學文獻；
- (c) 基於結構材料特性和所提供保護的類型，須描述和確認包裝的減輕效果。技術特性和圖樣清單須用於支持這個評估（密度【 $\text{kg} \cdot \text{m}^{-3}$ 】、比熱容【 $\text{J} \cdot \text{Kg}^{-1} \cdot \text{K}^{-1}$ 】、熱值【 $\text{kJ} \cdot \text{Kg}^{-1}$ 】、導熱性【 $\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$ 】、融化溫度和可燃溫度【 k 】、外包裝熱傳導係數【 $\text{w} \cdot \text{m}^{-2} \cdot \text{k}^{-1}$ 】）；
- (d) 試驗和任何支持計算須評估正常運輸條件下包裝內電池或電池組的熱逸潰結果；
- (e) 如果電池或電池組的充電狀態未知，進行的評估須與電池或電池組使用條件下最大可能的充電狀態一致；
- (f) 包裝內可能使用和運輸的環境條件須按照包裝氣體管理系統進行描述（包括氣體或煙泄露到環境的可能結果，例如通風或其他方法）；
- (g) 試驗或模型計算須考慮熱逸潰在電池或電池組內部觸發和蔓延最嚴重的情況；這個情況包括正常運輸條件下最嚴重的失效、反應可能的蔓延所產生的最大的熱和火焰；
- (h) 這些方案須經過足夠長的時間評估，以使所有可能的結果都發生（例如 24 小時）。

4.1.4.2 有關 IBCs 使用的包裝導則

IBC08 在特殊包裝規定 B21 第一句中增加新物質 UN3535，修改為“對於盛裝 UN1374、2590 和 3535 物質的 IBCs...”。

IBC520 在第三行，“符合 4.1.7.2”後插入下述新句子：

“如適用，具有相同控制和應急溫度的下述列明的配方也可按照

4.1.4.1 包裝導則 P520 的 OP8 包裝方法進行包裝運輸。”

對於 UN3109，在條目“叔丁基過氧化氫，濃度不超過 72%，含水”中，在“IBCs 類型”和“量”欄下增加一行分別為：

“31HA1” “1000”

在 IBC520 中增加下述新條目：

| 聯合國編號 | 有機過氧化物 | IBCs 類型 | 最大量 (L) | 控制溫度 | 應急溫度 |
|-------|--|---------|---------|-------|-------|
| 3109 | 2,5-二甲基-2,5-二(叔丁基過氧)己烷，濃度不超過 52%，含 A 型稀釋劑 | 31HA1 | 1000 | | |
| 3109 | 3,6,9-三乙基-3,6,9-三甲基-1,4,7-三過氧壬烷，濃度不超過 27%，含 A 型稀釋劑 | 31HA1 | 1000 | | |
| 3119 | 過氧-2-乙基己酸叔戊酯，濃度不超過 62%，含 A 型稀釋劑 | 31HA1 | 1000 | +15°C | +20°C |

4.1.4.3 有關大宗包裝使用的包裝導則

LP902 在“包裝物品”項下，將“包裝滿足包裝類 II 的性能標準。”替換為：

“剛性大宗包裝滿足包裝類 III 的性能標準，由下列材料製造：

鋼 (50A)；

鋁 (50B)；

除鋼或鋁外的其他金屬 (50N)；

剛性塑料 (50H)；

天然木 (50C)；

聚合板（50D）；
再生木（50F）；
剛性纖維板（50G）。”

在“未包裝物品”段落下，將句尾修改為“在製造廠和包括中間操作點的組裝廠間的運輸。”

LP903 第二句替換為：

“若滿足 4.1.1 和 4.1.3 的一般規定，下列大宗包裝可用於單個電池組和含有電池或電池組的單個設備：”

LP904 第一句替換為：

“本導則適用於 UN3090、3091、3480 和 3481 中單個損壞或有缺陷的電池組，以及含有損壞或有缺陷的電池或電池組的單個設備。”

第二句替換為：

“若滿足 4.1.1 和 4.1.3 的一般規定，下列大宗包裝可用於單個損壞或有缺陷的電池組，以及含有損壞或有缺陷的電池或電池組的單個設備。”

在第三句，將“含有電池組”替換為“含有電池和電池組”。在“鋼（50A）”前插入新的一行：“剛性大宗包裝滿足包裝類 II 的性能標準，由下列材料製造：”。在“聚合板（50D）”後刪除“包裝須滿足包裝類 II 的性能指標。”

第.1 段第一句開頭修改為：

“損壞或有缺陷的電池組或含有這類電池或電池組的設備須...”。

在第.2 段，開頭修改為“內包裝”。用“非導電”替換“非傳導”。

在第.4 段，在“電池組移動”後添加“或設備”。用“非導電”替換“非傳導”。最後一句，在“泄露電池組”後添加“和電池”。

在補充規定中，在“電池組”後添加“和電池”。

插入下述新包裝導則：

| LP03 | 包裝導則 | LP03 |
|--|------|------|
| <p>本導則適用於 UN3537、3538、3540、3541、3546、3547 和 3548。</p> | | |
| <p>(1) 若滿足 4.1.1 和 4.1.3 的一般規定，認可下列大宗包裝：</p> <p>剛性大宗包裝滿足包裝類 II 的性能標準，由下列材料製造：</p> <p>鋼 (50A) ；</p> <p>鋁 (50B) ；</p> <p>除鋼或鋁外的其他金屬 (50N) ；</p> <p>剛性塑料 (50H) ；</p> <p>天然木 (50C) ；</p> <p>聚合板 (50D) ；</p> <p>再生木 (50F) ；</p> <p>剛性纖維板 (50G) ” 。</p> <p>(2) 此外，須滿足下述條件：</p> <p>(a) 在物品內裝有液體或固體的容器須由適合的材料構成，並繫固在物品內，使其在正常運輸條件下，不能破損、刺破或泄露內容物到物品或外包裝內；</p> <p>(b) 盛裝液體並帶有關閉裝置的容器須按照關閉裝置的正確方向進行包裝。容器還須符合 6.1.5.5 內壓測試的規定；</p> <p>(c) 由玻璃、瓷、陶或特定塑料材料製成的容易刺破或破損的容器，須正確地進行繫固。任何內容物的泄露須不影響物品或外包裝的保護性能；</p> <p>(d) 在物品內盛裝氣體的容器須滿足 4.1.6 節的規定、適用時第 6.2 章的規定或能夠提供與包裝導則 P200 或 P208 相同水平的保護；和</p> <p>(e) 當物品內沒有容器時，物品須能將危險貨物完全裝入，並防止其在正常運輸條件下釋放。</p> <p>(3) 物品須進行包裝，以防止在正常運輸條件下的移動和疏忽操作。</p> | | |

| LP905 | 包裝導則 | LP905 |
|---|------|-------|
| <p>本導則適用於 UN3090、3091、3480 和 3481 含有不超過 100 個電池或電池組的產品，以及電池和電池組試產原型產品用於測試目的的運輸。</p> | | |
| <p>若滿足 4.1.1 和 4.1.3 的一般規定，下列大宗包裝可用於單個電池組和含有電池或電池組的單個設備。</p> | | |

(1) 對於單個電池組：

剛性大宗包裝滿足包裝類II的性能標準，由下列材料製造：

- 鋼（50A）；
- 鋁（50B）；
- 除鋼或鋁外的其他金屬（50N）；
- 剛性塑料（50H）；
- 天然木（50C）；
- 聚合板（50D）；
- 再生木（50F）；
- 剛性纖維板（50G）”。

大宗包裝須滿足下述要求：

- (a) 不同尺寸、形狀或質量的電池組可包裝在上述清單中經過試驗的設計類型的外包裝內，只要包件的總重不超過設計類型的試驗總重；
- (b) 電池組須裝入內包裝，並置於外包裝內；
- (c) 內包裝須被充足的不燃和不導電絕熱材料完全包圍，以防止危險放熱；
- (d) 須採取適當的方法使運輸中可導致包裝內電池組損壞和危險狀況的震動、衝擊和移動的影響最小化。當使用減震材料滿足這項要求時，該材料須不燃不導電；和
- (e) 不燃性須依據大宗包裝設計或生產國認可的標準評估。

(2) 對於單個設備：

剛性大宗包裝滿足包裝類II的性能標準，由下列材料製造：

- 鋼（50A）；
- 鋁（50B）；
- 除鋼或鋁外的其他金屬（50N）；
- 剛性塑料（50H）；
- 天然木（50C）；
- 聚合板（50D）；
- 再生木（50F）；
- 剛性纖維板（50G）”。

大宗包裝須滿足下述要求：

- (a) 不同尺寸、形狀或質量的單個設備可包裝在上述清單中經過試驗的設計類型的外包裝內，只要包件的總重不超過設計類型的試驗總重；

| |
|---|
| <p>(b) 設備的構造或包裝須能防止運輸中的意外操作；</p> <p>(c) 須採取適當的方法使運輸中可導致包裝內設備損壞和危險狀況的震動、衝擊和移動的影響最小化。當使用減震材料滿足這項要求時，該材料須不燃不導電；</p> <p>和</p> <p>(d) 不燃性須依據大宗包裝設計或生產國認可的標準評估。</p> |
| <p>補充規定：</p> <p>電池和電池組須防短路。</p> |

| LP906 | 包裝導則 | LP906 |
|-------|---|-------|
| | <p>本導則適用於 UN3090、3091、3480 和 3481 損壞或有缺陷的電池組，其在正常運輸條件下易於快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽。</p> | |
| | <p>若滿足 4.1.1 和 4.1.3 的一般規定，認可下列大宗包裝：</p> <p>對於單個電池組和包含電池或電池組的單個設備：</p> <p>剛性大宗包裝滿足包裝類 I 的性能標準，由下列材料製造：</p> <p>鋼（50A）；</p> <p>鋁（50B）；</p> <p>除鋼或鋁外的其他金屬（50N）；</p> <p>剛性塑料（50H）；</p> <p>聚合板（50D）；</p> <p>剛性纖維板（50G）”。</p> <p>1) 大宗包裝須能夠滿足下述附加性能要求，以防止電池組快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽：</p> <p>(a) 整個包裝的外表面溫度須不能超過100度。溫度瞬間峰值達到200度可以接受；</p> <p>(b) 火焰須不能產生在包裝外部；</p> <p>(c) 須沒有拋射物能離開包裝；</p> <p>(d) 包裝結構的完整性須能保持；</p> <p>(e) 如適用，大宗包裝須有一個氣體管理系統（例如過濾系統、空氣循環、氣體收容、氣密包裝等）。</p> | |

(2) 補充大宗包裝性能要求須經主管機關認可的試驗證明。

需要時須能得到證明報告。作為最小的要求，證明報告須列出電池組名稱、電池組數量、總重、型號、電池或電池組能量容量、大宗包裝標識和按照經主管機關認可的證明方法得到的試驗數據。

(3) 當使用乾冰或液氮做製冷劑時，須遵守5.5.3節的規定。在使用製冷劑時的溫度和失去製冷劑時可能導致的溫度和壓力下，內包裝和外包裝須保持完整。

補充規定：

電池組須防短路。

^a 如果相關，下述標準可考慮用於評估大宗包裝的性能：

- (a) 評估須在一個質量管理系統下進行（如2.9.4.5節所述），允許可追溯的試驗結果、參考數據和使用特性描述模型；
- (b) 預期防止電池或電池組在正常運輸條件下（例如使用內包裝、充電狀態、使用充足的不可燃、不導電和吸收緩衝材料等）熱逸潰的危害清單，須清晰地識別和確定；鋰電池組可能危害（快速分解、發生危險反應、產生火焰或危險放熱反應或釋放有毒、腐蝕、或易燃氣體或蒸汽）參考清單可用於此目的。這些危害的數量須依據有價值的科學文獻；
- (c) 基於結構材料特性和所提供保護的類型，須描述和確認大宗包裝的減輕效果。技術特性和圖樣清單須用於支持這個評估（密度【 $\text{kg} \cdot \text{m}^{-3}$ 】、比熱容【 $\text{J} \cdot \text{Kg}^{-1} \cdot \text{K}^{-1}$ 】、熱值【 $\text{kJ} \cdot \text{Kg}^{-1}$ 】、導熱性【 $\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$ 】、融化溫度和可燃溫度【 k 】、外包裝熱傳導係數【 $\text{w} \cdot \text{m}^{-2} \cdot \text{k}^{-1}$ 】）；
- (d) 試驗和任何支持計算須評估正常運輸條件下大宗包裝內電池或電池組的熱逸潰結果；
- (e) 如果電池組的充電狀態未知，進行的評估須與電池組使用條件下最大可能的充電狀態一致；
- (f) 大宗包裝內可能使用和運輸的環境條件須按照包裝氣體管理系統進行描述（包括氣體或煙泄露到環境的可能結果，例如通風或其他方法）；
- (g) 試驗或模型計算須考慮熱逸潰在電池組內部觸發和蔓延最嚴重的情況；這個情況包括正常運輸條件下最嚴重的失效、反應可能的蔓延所產生的最大的熱和火焰；
- (h) 這些方案須經過足夠長的時間評估，以使所有可能的結果都發生（例如24小時）。

4.1.6 第 2 類危險貨物的特殊包裝規定

4.1.6.1.4 第三句，“風險”替換為“危險”。

4.1.9 放射性物質的特殊包裝規定

4.1.9.1 一般規定

4.1.9.1.5 “風險”替換為“危險”（兩次）。

第 4.2 章

可移動罐櫃和多元氣體容器（MEGCs）的使用

4.2.0 過渡規定

4.2.0.1 在註中，在 IMO8 型罐櫃定義後插入 IMO9 型罐櫃定義如下：

“IMO9 型罐櫃指用於第 2 類壓縮氣體運輸的公路氣體單元車輛，其容器通過歧管相互連接，永久性附在底盤上，該底盤配有運輸氣體所需的各種附屬和結構設備。為運輸 2.2.1.1 中定義的氣體，容器為圓柱、管狀、和捆紮的圓柱。”

4.2.1 使用可移動罐櫃運輸第 1 類和第 3 類到第 9 類物質的一般規定

4.2.1.19 在高於其熔點溫度下運輸固體物質的補充規定

4.2.1.19.1 “風險”替換為“危險”（兩次）。

4.2.5.2 可移動罐櫃導則

T23 在第一欄末尾，增加新句子如下：

“如適用，具有相同控制和應急溫度的下述列明的配方也可按照 4.1.4.1 包裝導則 P520 的 OP8 包裝方法進行包裝運輸。”

在腳註^s中，“風險”替換為“危險”（兩次）。

4.2.5.3 可移動罐櫃特殊規定

TP10 在末尾增加下述新句子：

“可移動罐櫃在最後一項檢查期滿後，卸空但未清潔，再次充灌前為執行下一個必須的檢查或試驗的目的，在最後一項試驗期滿前可繼續運輸不超過三個月。”

4.2.6 將 4.2.6 標題修改為“使用公路罐車和公路氣體單元車輛的補充規定

4.2.6.1 將第 4.2.6.1 段替換如下：

“4.2.6.1 公路罐車的罐櫃或公路氣體單元車輛的容器，在充灌、卸載和運輸等正常操作中須與車輛固定在一起。IMO4 型罐櫃用船載運時，須綁固在車輛底盤上。公路罐車和公路氣體容器車輛在船期間須不得進行充灌或卸載。公路罐車或公路氣體單元車輛須靠其自由動力滾裝上船，並配有永久性繫固裝置以便在船繫固。”

4.2.6.2 將“公路罐車須符合”替換為“公路罐車和公路氣體單元車輛須符合”，增加下述新段落：

“4.2.6.3 允許用 IMO9 型罐櫃運輸的物質指定特殊規定 974。”

第5部分 託運程序

第 5.1 章 一般規定

5.1.1 適用範圍和一般規定

在最後，新增下列內容：

“註：按照 GHS 要求，當本規則對 GHS 象形圖未做要求時，GHS 象形圖在運輸中應僅作為完整 GHS 標籤的一部分而不單獨出現（見 GHS1.4.10.4.4）。”

5.1.4 混合包裝

“風險”替換為“危險”。

5.1.5 第 7 類物質的一般規定

5.1.5.4.2 現有段落替換如下：

“5.1.5.4.2 除滿足下列要求外，5.4.1 和 5.4.5 的單證要求不適用第 7 類放射性物質的例外包件：

- .1 以字母“UN”開頭的聯合國編號，發貨人和收貨人的名稱和地址，如相關，每一有關當局批准證書（見 5.4.1.5.7.1.7）的識別標記須在專門的運輸單證中註明。運輸單證包括：如載貨清單、航空貨單或其他滿足 5.4.1.2.1 到 5.4.1.2.4 要求的相似文件；和

- .2 須滿足 6.4.1.6.2 的要求，如相關，以及 5.4.1.5.7.1.7、5.4.1.5.7.3 和 5.4.1.5.7.4 的要求。”

第 5.2 章

包件（包括中型散裝容器）的標記和標誌

5.2.1 包件（包括中型散裝容器）的標記

5.2.1.3 在“救助包裝”後，新增“包括大宗救助包裝”。

5.2.1.7.1 前 4 句替換如下：

“5.2.1.7.2 中的要求除外：

- 含有盛有液態危險貨物內包裝的組合包裝；
- 裝有通氣孔的單一包裝；
- 擬裝運冷凍液化氣體的冷凍容器；和
- 含有液體危險貨物的機器或裝置，當要求確保該液體危險貨物保持在它們指定的方向時（見第 3.3 章特殊規定 301），”

5.2.2 包件（包括中型散裝容器）的標誌

5.2.2.1.1 “風險”替換為“危險”。

5.2.2.1.2 “風險”替換為“危險”。

5.2.2.1.2.1 刪除條目“蓄電池，濕的，不溢出的 UN2800 第 8 類[†]”及其相應的腳註內容。

5.2.2.1.3 “風險”替換為“危險”。

5.2.2.1.3.1 “風險” 替換為 “危險” 。

5.2.2.1.4 “風險” 替換為 “危險” 。

5.2.2.1.5 “風險” 替換為 “危險” 。

5.2.2.1.6.3 “風險” 替換為 “危險” 。

5.2.2.1.9 “風險” 替換為 “危險” 。

5.2.2.1.10 “風險” 替換為 “危險” 。

5.2.2.1.11 “風險” 替換為 “危險” 。

5.2.2.1.13 新增內容如下：

“5.2.2.1.13 含聯合國編號 3537、3538、3539、3540、3541、3542、3543、3544、3545、3546、3547 和 3548 危險貨物的物品的標誌

.1 根據 5.2.2.1.2，含有物品或無包裝運輸的物品的包件須貼標誌來反映按 2.0.6 確定的危害。如果物品中含有一個或多個鋰電池，對於鋰金屬電池，鋰含量合計不大於 2g，同時對於鋰離子電池，不大於 100Wh，在包裝或未包裝的物品上須張貼鋰電池標記（5.2.1.10.2）。如果物品中含有一個或多個鋰電池，對於鋰金屬電池，鋰含量合計大於 2g，同時對於鋰離子電池，大於 100Wh，在包裝或未包裝的物品上須張貼鋰電池標誌（5.2.2.2.2 No.9A）。

.2 當要求確保含有液體危險貨物物品保持其指定方

向時，須張貼符合 5.2.1.7.1 的方向標記，在可能的情況下，至少滿足包裝或未包裝的物品垂直對立的兩側可見，同時箭頭指向正確的豎直方向。”

5.2.2.2 標誌規定

5.2.2.2.1.1.2 前 3 句替換如下：

“標誌須是與水平線呈 45°角（菱形）放置的正方形，最小尺寸須是 100mm×100mm。內邊緣線須與邊緣線平行且相距 5mm。”

5.2.2.2.1.1.3 修改為：“果包件尺寸受限，只要標誌上的符號和其他要素仍清晰可辨，標誌尺寸可以按比例縮小。氣瓶標誌的尺寸須滿足 5.2.2.2.1.2 的規定。”

5.2.2.2.1.2 修改為：

“對於第 2 類鋼瓶，由於其形狀、運輸中的積載方向和繫固的機械結構，可依照 ISO 7225：2005 “氣瓶—警戒標記”黏貼本節規定的小型代表性標誌，並應在鋼瓶的非圓柱體部位（肩部）顯示。該標誌可在 ISO 7225：2005 規定的範圍內重疊，但是，表示主危險標誌和標誌上的數字須易辨可見。”

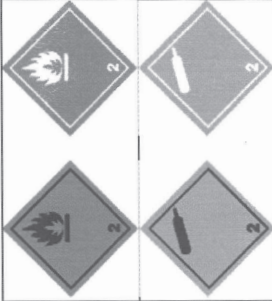


5.2.2.2.1.5 “風險”替換為“危險”。





5.2.2.2.2 修改為：





“5.2.2.2.2 標誌圖例





註：標誌須滿足下述規定並且其顏色、符號和基本格式須與 5.2.2.2.2 的規定一致。其他運輸方式規定的、具有較小變化而不致影響含義的相應式樣也可接受。”




| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字(及數字顏色) | 標誌圖例 | 備註 |
|------------------|----------------|---|----|-------------|------|--|
| 第 1 類：爆炸品 | | | | | | |
| 1 | 1.1、1.2、1.3 小類 | 爆炸的炸彈；黑色 | 橙色 | 1 (黑色) | | -** 屬於小類的位置 – 如果爆炸性屬於副危險性則留空 -* 屬於配裝類的位置 – 如果爆炸性屬於副危險性則留空 |
| 1.4 | 1.4 小類 | 1.4：黑色 數字須高 30mm，字體筆劃的寬度約 5mm (對於 100 mm × 100 mm 的標誌) | 橙色 | 1 (黑色) | | * 屬於配裝類的位置 |
| 1.5 | 1.5 小類 | 1.5：黑色 數字須高 30mm，字體筆劃的寬度約 5mm (對於 100 mm × 100 mm 的標誌) | 橙色 | 1 (黑色) | | * 屬於配裝類的位置 |
| 1.6 | 1.6 小類 | 1.6：黑色 數字須高 30mm，字體筆劃的寬度約 5mm (對於 100 mm × 100 mm 的標誌) | 橙色 | 1 (黑色) | | * 屬於配裝類的位置 |

| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字 (及數字顏色) | 標誌圖例 | 備註 |
|----------|---|------------------|----|--------------|--|----|
| 第 2 類：氣體 | | | | | | |
| 2.1 | 第 2.1 類 易燃氣體 (按 5.2.2.2.1.6.4 中規定的除外) | 火焰：黑色或白色 | 紅色 | 2 (黑色或白色) |  | - |
| 2.2 | 第 2.2 類 非易燃，無毒氣體 | 氣瓶：黑色或白色 | 綠色 | 2 (黑色或白色) |  | - |
| 2.3 | 第 2.3 類 有毒氣體 | 骷髏和交叉的骨頭 棒：黑色 | 白色 | 2 (黑色) |  | - |

| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字 (及數字顏色) | 標誌圖例 | 備註 |
|-------------------------------------|--|--------------|-----------------------|--------------|---|----|
| 第 3 類：易燃液體 | | | | | | |
| 3 | - | 火焰：黑色或白色 | 紅色 | 3 (黑色或白色) |  | - |
| 第 4 類：易燃固體；易自燃物質；遇水放出易燃氣體的物質 | | | | | | |
| 4.1 | 第 4.1 類： 易燃固體、自反應物質、 固體退敏爆炸品和聚合性 物質 | 火焰：黑色 | 白色加上 7 條紅色豎直 條帶 | 4 (黑色) |  | - |
| 4.2 | 第 4.2 類： 易自燃物質 | 火焰：黑色 | 上半部為白 色，下半部 為紅色 | 4 (黑色) |  | - |
| 4.3 | 第 4.3 類： 遇水放出易燃氣體的物質 | 火焰：黑色或白 色 | 藍色 | 4 (黑色或白色) |  | - |

| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字 (及 數字顏色) | 標誌圖例 | 備註 |
|---------------------------|--------------------|-------------------------------|-----------------------|------------------|---|---|
| 第 5 類：氧化性物質和有機過氧化物 | | | | | | |
| 5.1 | 第 5.1 類： 氧化性物質 | 圓圈上帶有火 焰；黑色 | 黃色 | 5.1 (黑色) |  | - |
| 5.2 | 第 5.2 類： 有機過氧化物 | 火焰；黑色 或 白 色 | 上半部分紅 色，下半部 分黃色 | 5.2 (黑色) |  | - |
| 第 6 類：有毒和感染性物質 | | | | | | |
| 6.1 | 第 6.1 類： 有毒物質 | 骷髏和交叉的骨 頭棒；黑色 | 白色 | 6 (黑色) |  | - |
| 6.2 | 第 6.2 類： 感染性物質 | 三個新月形符號 沿着一個圓圈疊 加在一起；黑色 | 白色 | 6 (黑色) |  | 標誌的下半部分可以帶有黑色 “感染性物質”，以及“一旦 破損或泄露立即通知公共衛生 機關”字樣。 |

| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字(及數字顏色) | 標誌圖例 | 備註 |
|-------------|-------|---------|---------------------|-------------|---|---|
| 第 7 類:放射性物質 | | | | | | |
| 7A | I 級 | 三葉型: 黑色 | 白色 | 7 (黑色) |  | 文字(強制性要求): 在標誌的下半部用黑色文字標出: RADIOACTIVE (放射性) Contents (內裝物) Activity (活度) 緊跟“放射性”字樣的後面須標上一條垂直的紅色短杠。 |
| 7B | II 級 | 三葉型: 黑色 | 上半部分為黃色帶白邊, 下半部分為白色 | 7 (黑色) |  | 文字(強制性要求): 在標誌的下半部用黑色文字標出: RADIOACTIVE (放射性) Contents (內裝物) Activity (活度) 在一個黑框內標出: Transport index (運輸指數) 緊跟“放射性”字樣的後面須標上二條垂直的紅色短杠。 |
| 7C | III 級 | 三葉型: 黑色 | 上半部分為黃色帶白邊, 下半部分為白色 | 7 (黑色) |  | 文字(強制性要求): 在標誌的下半部用黑色文字標出: RADIOACTIVE (放射性) Contents (內裝物) Activity (活度) 在一個黑框內標出: Transport index (運輸指數) 緊跟“放射性”字樣的後面須標上三條垂直的紅色短杠。 |
| 7E | 裂變性物質 | - | 白色 | 7 (黑色) |  | 文字(強制性要求): 在標誌的上半部用黑體標出: FISSILE (裂變性)。 在標誌的下半部用一個黑框內標出: Criticality Safety index (臨界安全指數) |

| 標誌編號 | 類、小類 | 符號和符號顏色 | 底色 | 底角數字 (及數字顏色) | 標誌圖例 | 備註 |
|---------------------------------|------|---|--------------------|----------------|--|----|
| 第 8 類：腐蝕性物質 | | | | | | |
| 8 | - | 液體，從兩個玻璃容器流出來侵蝕到手和金屬上；黑色 | 上半部分為白色，下半部分為黑色帶白邊 | 8 (白色) |  | - |
| 第 9 類：雜類危險物質和物品，包括環境有害物質 | | | | | | |
| 9 | - | 上半部分為 7 條豎直條帶；黑色 | 白色 | 9 帶下劃線 (黑色) |  | - |
| 9A | - | 上半部分為 7 條豎直條帶；黑色； 下半部分為電池組，一個損壞的電池並發出火焰； 黑色 | 白色 | 9 帶下劃線 (黑色) |  | - |

第 5.3 章

貨物運輸組件的標牌和標記

第 5.3 章標題修改為“貨物運輸組件和散裝容器的標牌和標記”

5.3.1 標牌

5.3.1.1.1 第.1 至.3 分段內容修改為：

- “.1 如果貼在包件上的標誌和/或標記從貨物運輸組件或散裝容器外面不能清楚可見的話，須將放大的標誌（標牌）、標記和符號黏貼在貨物運輸組件或散裝容器的外表面上，以警告人們在組件或散裝容器內裝有危險貨物並存在着危險；
- .2 按 5.3.1.1.4 和 5.3.2 的要求在貨物運輸組件和散裝容器上顯示標牌和標記的方法須做到其在海水中至少浸泡 3 個月後貨物運輸組件和散裝容器上的標牌和標記仍清晰可辨。在確定標記方法時，還須考慮到貨物運輸組件或散裝容器表面能進行標記的簡易性；以及
- .3 當貨物運輸組件和散裝容器內所裝的危險貨物或其殘餘物完全卸掉後，須立即除掉或遮蓋掉那些由於裝運此類物質而顯示的標牌、桔黃色標籤、標記或標識。”

5.3.1.1.2 “貨運運輸組件”後新增“或散裝容器”。

5.3.1.1.3 “貨運運輸組件”後新增“或散裝容器”。

5.3.1.1.4.1 替換 5.3.1.1.4.1 內容如下：

“5.3.1.1.4.1 裝有危險貨物或危險貨物殘留物的貨物運輸組件或散裝容器須按下列方式清楚地顯示標牌：

- .1 集裝箱、半掛車或可移動罐櫃：在組件每側和每端各一個。容量不超過 3000 L 的可移動罐櫃可在其相對的兩側使用標牌，也可使用標誌代替；
- .2 鐵路罐車：至少在每側；
- .3 盛裝一種以上危險貨物或其殘留物的多格罐櫃：在相關分格間的位置，沿每側標記，如果每個分格間要求顯示的標牌相同，這些標牌僅需沿着貨物運輸組件每側顯示一次；
- .4 柔性散裝容器：至少在對立的兩面；和
- .5 其他任何貨物運輸組件：至少在組件背面和兩側。”

5.3.1.2.1 在最後，刪除註釋內容。

5.3.2 貨運運輸組件標記

第 5.3.2 章題目修改為“標記”。

5.3.2.3.1 “貨運運輸組件”後新增“或散裝容器”。

5.3.2.3.2 “貨運運輸組件”後新增“或散裝容器”。

第 5.4 章

單證

5.4.1 危險貨物運輸信息

5.4.1.4 危險貨物運輸單證所需信息

5.4.1.4.14 “風險”替換為“危險”。

5.4.1.5 危險貨物描述中所要求的附加信息

5.4.1.5.3 在標題和下面的句子中，在“救助包裝”之後，新增“包括大宗救助包裝”。

5.4.1.5.5 內容替換如下：

“在運輸期間需控制溫度的自反應物質、有機過氧化物和聚合物質，其控制溫度和應急溫度（見 7.3.7.2）須在運輸單證中標明，如：

“控制溫度：……°C 應急溫度：……°C”。

5.4.1.5.5.1 “風險”替換為“危險”。

5.4.1.5.9 爆炸品

5.4.1.5.9.1 “國際運輸機動車輛的國家識別代碼”替換為“用於國際公路運輸的機動車輛國家識別代碼”。

5.4.1.5.9.2 “國際運輸機動車輛的國家識別代碼”替換為“用於國際公路運輸*的機動車輛國家識別代碼”。

5.4.1.5.9.3 “國際運輸機動車輛的國家識別代碼”替換為“用於國際公路運輸*的機動車輛國家識別代碼”。

5.4.1.5.15 “國際運輸機動車輛的國家識別代碼”替換為“用於國際公路運輸*的機動車輛國家識別代碼”。

5.4.3 裝船所需的單證

替換 5.4.3 的規定為下列內容：

“5.4.3 裝船所需的單證

5.4.3.1 每艘裝運危險貨物和海洋污染物的船舶都須按照《1974 年安全公約》第 VII/4.2 條，及《防污公約》附則 III 第 4.2 條的規定，具有特別清單、艙單或積載圖，以列明所裝危險貨物（不含第 7 類例外包件的危險貨物）和海洋污染物及其在船上的位置。該危險貨物和海洋污染物清單或艙單須基於本規則要求的單證和證書，並且除 5.4.1.4 和 5.4.1.5，以及 5.5.2.4.1.1（對 UN 3359 來說）中的信息外，還須包括危險貨物和海洋污染物的積載位置和總共數量。一份詳細的積載圖，按類標出所有危險貨物和海洋污染物，並指出裝載位置，可用來替代這些特別清單或艙單。”

5.4.3.2 每艘裝運第 7 類例外包件的船舶須具有特別清單、艙單或積載圖以列明所裝第 7 類例外包件的危險貨物在船上的位置。該清單或艙單須基於 5.1.5.4.2.1 的單證。

5.4.3.3 這些按照 5.4.3.1 和，如果適用，5.4.3.2d 的單證副本須在離港前提供給港口國有關當局指定的個人或組織。”

現有的 5.4.3.2 編號改為 5.4.3.4，同時，5.4.3.2 編號改為 5.4.3.4.1。

5.4.3.2.1.3 在“船舶載運危險貨物應急反應措施（*EmS* 指南）”之前新增“經修訂的”

5.4.5 危險貨物多式聯運的表格

5.4.5.1 替換現有文本為如下內容，

“5.4.5.1 本表格符合《SOLAS74 公約》第 VII 章第 4 條、《MARPOL 公約》附則 III 第 4 條和本章的規定。本章規定所要求的信息是強制的。但表格的格式不是強制的。

在危險貨物多式聯運時，本表格的危險貨物運輸單證和集裝箱裝載證明可合二為一。”

刪除“危險貨物多式聯運表格”標題下面的文字。

在“危險貨物國際運輸單證樣式 集裝箱/車輛裝載證明”中，將已有的句子

“如果託運貨物包括除 1.4 類外的第 1 類貨物，則集裝箱在結構上是耐用的。”

替換為：

“如果託運貨物包括除 1.4 類外的第 1 類貨物，則集裝箱/車輛在結構上是耐用的。”

將已有的句子

“當用固體二氧化碳（CO₂-乾冰）作為冷卻劑時，依照 5.5.3.6，在車輛或集裝箱的表面顯著地方作標記或標誌。”

替換為：

“當存在窒息危險的物質用於冷卻或空氣調節目的是（如，乾冰（UN1845）或氮氣，冷凍液體（UN1977）或氫氣，冷凍氣體（UN1951）），按照 5.5.3.6 的規定，在集裝箱外表面地方標記”

將已有的句子

“如果這一危險貨物單證格式僅用作集裝載/車輛裝箱證明而不是用作合併單證時，由託運人或發貨人簽字的危險貨物聲明必須已簽發或接收，此聲明須包括集裝箱內所裝的每一被託運的危險貨物。”

替換為：

“如果這一危險貨物單證格式僅用作集裝載/車輛裝箱證明而不是用作合併單證時，由託運人或發貨人簽字的危險貨物聲明必須已簽發或接收，此聲明須包括集裝箱/車輛內所裝的每一被託運的危險貨物。”

註中，“集裝箱”替換為“集裝箱/車輛”。

第 5.5 章 特殊規定

5.5.2.5 附加規定

刪除第 5.5.2.5.1 段，並對餘下段落相應重新編號。

第 6 部分

包裝、中型散裝容器（IBCs）、大宗包裝、可移動罐櫃、多單元氣體容器（MEGCs）和公路罐車的構造和試驗

第 6.1 章

包裝（適用 6.2 類物質的除外）的構造和試驗規定

在這章標題，刪去“（適用 6.2 類物質的除外）”。

6.1.1 適用範圍和一般規定

6.1.1.1 適用範圍

6.1.1.1.2 (i) 用“風險”替換“危險”，並增加新的第.5 分段如下：

“.5 6.2 類 A 類感染性物質的包裝。”

6.1.3 標記

6.1.3.1 (f) 用“用國際公路通行車輛使用的標記符號表示”替換“用國際間通行的機動車輛使用的標記符號表示”。

6.1.3.8 (h) 用“用國際公路通行車輛使用的標記符號表示”替換“用國際間通行的機動車輛使用的標記符號表示”。

6.1.5.7 試驗報告

6.1.5.7.1 在第.8 分段，末尾增加：

“承受過 6.1.5.5 內壓試驗塑料包裝的測量水溫。”

第 6.2 章

壓力容器、氣霧劑容器、盛裝氣體的小容器（儲氣筒）和盛裝液化易燃氣體

的燃料電池筒和試驗規定

6.2.1 一般規定

6.2.1.6 定期檢驗和試驗

6.2.1.6.1.4 替換註 2 如下：

“註 2：對無縫鋼瓶和管狀容器，6.2.1.6.1.2 的檢驗及 6.2.1.6.1.4 的液壓試驗可用如下等效方法替代：ISO16148:2016 氣瓶可重複充裝的無縫鋼瓶和管狀容器定期檢驗和測試用聲發射檢測（AT）和後續超聲檢測（UT）。”

在註 3 中，用“液壓試驗可替代用”替換“6.2.1.6.1.2 的檢驗及 6.2.1.6.1.4 的液壓試驗可替代用”。

6.2.2 UN 壓力容器規定

6.2.2.1 設計、構造、初始檢驗和試驗

6.2.2.1.1 在表中，對“ISO 11118:1999”，在“生產適用範圍”欄，用“至 2020 年 12 月 31 日”替換“至另行通知前”。

在表中，在“ISO 11118:1999”後，插入新行如下：

| | | |
|----------------|----------------------------|--------|
| ISO 11118:2015 | 氣瓶 – 不可重複充灌的金屬氣瓶 – 規範和試驗方法 | 至另行通知前 |
|----------------|----------------------------|--------|

6.2.2.1.2 在表中，對“ISO 11120:1999”，在“生產適用範圍”欄，用“至 2022 年 12 月 31 日”替換“至另行通知前”。

在表中，在“ISO 11120:1999”後，插入新行如下：

| | | |
|----------------|---|--------|
| ISO 11120:2015 | 氣瓶 – 可重複充灌水容量 150 升至 3000 升無縫鋼管道 – 設計、構造和試驗方法 | 至另行通知前 |
|----------------|---|--------|

插入新的第 6.2.2.1.8 段如下：

“6.2.2.1.8 下表的標準適用於 UN 壓力容器的設計、構造、初次檢驗和試驗，除與其有關的評估系統和認可的檢驗要求須滿足 6.2.2.5 規定外：

| 編號 | 名稱 | 生產適用範圍 |
|------------------|---|--------|
| ISO 21172-1:2015 | 氣瓶 – 焊接鋼壓力容器氣體運輸容積至 3,000L – 設計和構造 – 第 1 部分：容積至 1000L 註：不考慮本標準 6.3.3.4 部分，帶應壓凹凸端氣體焊接鋼壓力容器可運腐蝕性物質，當本規則所有要求都滿足時。 | 至另行通知前 |
| ISO 4706: 2008 | 氣瓶 – 可重複充灌焊接鋼瓶 – 試驗壓力 60 巴及以下 | 至另行通知前 |
| ISO 18172-1:2007 | 氣瓶 – 可重複充灌焊接不鏽鋼瓶– 第 1 部分：試驗壓力 6 兆巴及以下 | 至另行通知前 |

”

6.2.2.3 操作設備

在第一個表中，對“ISO 13340:2001”，在“生產適用範圍”欄，用“至 2020 年 12 月 31 日”替換“至另行通知前”。

在第一個表中，在末尾插入下列行：

| | | |
|----------------|-----------------------|--------|
| ISO 14246:2014 | 氣瓶 – 氣瓶閥門 – 製造檢驗和檢查 | 至另行通知前 |
| ISO 17871:2015 | 氣瓶 – 快釋氣瓶閥門 – 規格和類型試驗 | 至另行通知前 |

6.2.2.4 定期檢驗和試驗

修改導入句末尾為“...UN 氣瓶和其覆蓋物的檢驗：”。移動本表最後一行至建立的新表，其用相同的標題和導入句為“下列標準適用於 UN 金屬貯氫系統的定期檢驗和試驗：”

在本表中，對“ISO 11623:2002”，在“生產適用範圍”欄，用“至 2020 年 12 月 31 日”替換“至另行通知前”。在“ISO 11623:2002”行後，插入如下新行：

| | | |
|----------------|---------------------|--------|
| ISO 11623:2015 | 氣瓶 – 複合構造 – 定期檢驗和試驗 | 至另行通知前 |
|----------------|---------------------|--------|

在第一個表末尾，插入以下行：

| | | |
|----------------|---|--------|
| ISO 22434:2006 | 便攜式氣瓶 – 氣瓶閥門的檢驗和維護 <i>註：這些要求可隨時滿足，不同於 UN 氣瓶的定期檢驗和試驗周期。</i> | 至另行通知前 |
|----------------|---|--------|

6.2.2.7 UN 可重複充灌壓力容器的標記

6.2.2.7.2 (c) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示*”。

6.2.2.7.4 在第 (m) 分段下，插入一個新的註釋如下：

“註：標記信息可以使用應用於氣瓶的上的辨識線，其採用 ISO/TR 11364，氣瓶–國家和國際閥杆/氣瓶頸線程及其鑑定與標記體系的編制。”

6.2.2.7.4 (n) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示*”。

6.2.2.7.7 (a) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示*”。

6.2.2.9 UN 金屬貯氫系統的標記

6.2.2.9.2 在 (c) 和 (h) 中，用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示*”

6.2.2.9.4 (a) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

第 6.3 章

第 6.2 類 A 類感染性物質包裝的構造和試驗規定

6.3.4 標記

6.3.4.2 (e) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

第 6.4 章

放射性物質包件的構造、試驗以及放射性物質的批准規定

6.4.23 放射性物質運輸的批准申請及批准

6.4.23.11 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

第 6.5 章

中型散裝容器 (IBCs) 的構造與試驗規定

6.5.2 標記

6.5.2.1 主要標記

6.5.2.1.1.5 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

6.5.6.9 跌落試驗

6.5.6.9.3 修改最後一段如下：

“每次跌落可以使用相同或不同，但同型的中型散裝容器。”

6.5.6.14 試驗報告

6.5.6.14.1.8 在下段末尾，增加此句：“承受過 6.5.6.8 液壓實驗的硬塑料和複合中型散裝容器的水溫；”。

第 6.6 章

大宗包裝的構造與試驗規定

6.6.3 標記

6.6.3.1 主要標記

6.6.3.1 (e) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

第 6.7 章

可移動罐櫃和多單元氣體容器 (MEGCs) 的設計、構造、檢驗和試驗規定

6.7.2 運輸第 1 類和第 3-9 類物質的可移動罐櫃的設計、構造、檢驗和試驗規定

6.7.2.18.1 在第五句中，用“用國際公路通行車輛使用的標記符號表示”替換“即由 1968 年維也納公路運輸公約制定的用於國際交通的識別標識”。

6.7.3.14.1 在第五句中，用“用國際公路通行車輛使用的標記符號表示”替換“即由 1968 年維也納公路運輸公約制定的用於國際交通的識別標識”。

6.7.4.13.1 在第五句中，用“用國際公路通行車輛使用的標記符號表示”替換“即由 1968 年維也納公路運輸公約制定的用於國際交通的識別標識”。

6.7.5.11.1 在第五句中，用“用國際公路通行車輛使用的標記符號表示”替換

“即由 1968 年維也納公路運輸公約制定的用於國際交通的識別標識”。

第 6.8 章 公路罐車規定

修改第 6.8 章標題為“公路罐車及公路氣體單元車輛規定”。

6.8.1.1 修改 6.8.1.1 節如下：

“6.8.1.1 罐櫃和氣體多單元支撐框架、配件和繫固附件*

6.8.1.1.1 公路罐車和公路氣體單元車輛須設計製造成帶有為運輸中提供安全基座的支座和適當的繫固附件。繫固附件須安裝在罐櫃支架、多單元或罐車結構上，其配置方式須保證懸掛系統不會自由擺動。”

6.8.3 修改 6.8.3 標題為“短程國際運輸的公路罐車和公路氣體單元車輛”

6.8.3.4 增加新 6.8.3.4 如下：

“6.8.3.4 用於運輸第 2 類壓縮氣體的公路多單元車（IMO9 型）

6.8.3.4.1 一般規定

6.8.3.4.1.1 IMO9 型罐櫃須符合 6.8.3.4.2 和 6.8.3.4.3 的規定。

6.8.3.4.1.2 如果在航程中正常運輸條件下要進行通風，則不允許使用 IMO9 型罐櫃進行海上運輸。

6.8.3.4.2 設計和構造

6.8.3.4.2.1 IMO9 型罐櫃須符合 6.7.5 的規定，除運輸方向上處於直角的水平力須乘以重力加速度（g）*得出 MPGM；且其

檢驗和試驗須與認可公路氣體多單元車輛所在國主管當局一致。

* 為便於計算， $g = 9.81\text{m/s}^2$ 。

6.8.3.4.2.2 如果 IMO9 型罐櫃以着陸腿用作支撐構架，在其設計和附着方法中須考慮到 6.7.5.2.8 中所允許的負荷要求。在設計計算中須考慮到這種支撐對罐殼或多單元所產生的彎曲應力。

6.8.3.4.2.3 IMO9 型拖帶車輛和公路氣體單元車輛支撐結構須裝有緊固裝置（緊固附件）。對於不帶有牽引車輛的半拖車而言，只有當拖車的支撐結構，緊固裝置，以及積載位置經海運有關當局批准後方可運輸，除非經批准的貨物緊固手冊包括此種安排。

6.8.3.4.3 批准、試驗和標記

6.8.3.4.3.1 IMO9 型罐櫃須經公路運輸有關當局批准方可用於公路運輸。

6.8.3.4.3.2 對於 IMO9 型罐櫃，海運有關當局須另外簽發證書，以證明罐櫃的設計、構造和設備符合本章的要求，適用時，還須符合危險貨物一覽表中列明的對氣體的特殊規定。該證書中須列明允許運輸的氣體的一覽表。

6.8.3.4.3.3 IMO9 型罐櫃須根據公路氣體單元車輛所在國運輸有關當局的要求進行定期檢驗和試驗。

6.8.3.4.3.4 IMO9 型罐櫃適用時須根據 6.7.5.13 中的要求做標記。

但是，當公路運輸主管機要求的標記實質上與 6.7.5.13.1 中的要求一致時，則可在附着於 IMO9 型罐櫃的金屬標牌上標明“IMO9”即可。

”

第 6.9 章

散裝容器的設計、構造、檢驗和試驗規定

6.9.5 BK3 柔性散裝容器的設計、製造、檢查和試驗規定

6.9.5.5 標記

6.9.5.5.1 (e) 用“用國際公路通行車輛使用的標記符號”替換“用國際間通行的機動車輛使用的標記符號表示”。

第 7 部分

運輸作業的有關規定

第 7.1 章

一般積載規定

7.1.3 積載類

7.1.3.1 第 1 類的積載類

積載類 02、積載類 03、積載類 04 和積載類 05 的第 3 列分別用“7.1.4.4.6”替代“7.1.4.4.5”。

7.1.4 特殊積載規定

第 7.1.4.4.5 段和第 7.1.4.4.5.1 段分別重新編號為第 7.1.4.4.6 段和第 7.1.4.4.6.1 段，第 7.1.4.4.6 段重新編號為第 7.1.4.4.7 段。

增加新的第 7.1.4.4.5 段，內容如下：

“7.1.4.4.5 到或從近海的石油平臺、移動的離岸鑽探裝置和其他的離岸裝置的運輸。

儘管在危險貨物一覽表中的第 16a 列指出了積載類，但是 UN0124 裝藥的噴射式鑽孔槍和 UN0494 裝藥的噴射式鑽孔槍，到或從近海的石油平臺、移動的離岸鑽探裝置和其他的離岸裝置的運輸，如果符合下列情況，可以被積載在近海的油井甲板上的工具托盤、支架、籃筐裏：

- .1 根據 7.2.7 規定，初始裝置須彼此且和任一噴射式鑽孔槍隔離；根據 7.2.4 和 7.6.3.2 規定，須與任

何其他危險貨物隔離，除非經主管當局同意；

- .2 運輸時，噴射式鑽孔槍須安全地放在相應的位置；
- .3 對於附加於任一噴射式鑽孔槍的每一成形的充藥須不超過 112 克炸藥；
- .4 如果沒有用玻璃或金屬完全密封，噴射式鑽孔槍上的每一成形的裝藥須充分以其附屬裝置的金屬蓋加以保護；
- .5 在萬一發生火災時釋放壓力，噴射式鑽孔槍的兩頭須通過鋼制盲板加以防護；
- .6 每個油井的工具托盤、支架或者籃筐所有的炸藥含量不允許超過 95 公斤；並且
- .7 當不止一個油井工具托盤、支架或者籃筐被積載在甲板上時，彼此之間須至少遵守 3 米的水平距離。”

7.1.4.6 在 7.1.4.6.1 後，添加了新的規定 7.1.4.7，內容如下：

“7.1.4.7 穩定的危險貨物的積載

根據 3.1.2.6，對於被加入“穩定的”字樣、作為正確運輸名稱一部分的物質，積載類 D 和 SW1 須適用。”

7.1.5 積載代碼

增加了新的 SW30，內容如下：

“SW30 適合特殊積載規定，見 7.1.4.4.5。”

第 7.2 章 一般隔離規定

7.2.2 定義

7.2.2.2 在第.2 分段中，“風險”替換為“危險”。

7.2.3 隔離規定

7.2.3.3 “風險”替換為“危險”（兩次）。

7.2.3.4 “風險”替換為“危險”，“風險”替換為“危險”。並將“對第 5.1 類隔離，但是被“隔離於”第 7 類”替換為“SG6（對第 5.1 類隔離），和 SG19（積載“隔離於”第 7 類）”。

7.2.4 隔離表

7.2.4 在第三段中，“風險”替換為“危險”。

7.2.5 隔離類

7.2.5.1 修改了現存段落 7.2.5.1，內容如下：

“7.2.5.1 為了隔離的目的，具有相似化學性質的危險貨物已經按 7.2.5.2 列出的隔離類被分在一起，分配到這些隔離類條目列在 3.1.4.4，並且在危險貨物一覽表中第 16b 列以隔離類代碼識別。”

7.2.5.2 替換第 7.2.5.2 段，內容如下：

“7.2.5.2 在危險貨物一覽表中第 16b 列所給的隔離類代碼具體說明如下：

| 隔離類代碼 | 隔離類 | 描述 |
|-------|-----------|-----------------------|
| SGG1 | 1 | 酸類 |
| SGG1a | 1, 標記*的條目 | *強酸類標識 |
| SGG2 | 2 | 氮化合物類 |
| SGG3 | 3 | 溴酸鹽類 |
| SGG4 | 4 | 氯酸鹽類 |
| SGG5 | 5 | 亞氯酸鹽類 |
| SGG6 | 6 | 氰化物類 |
| SGG7 | 7 | 重金屬及其鹽類（包括它們的有機金屬化合物） |
| SGG8 | 8 | 次氯酸鹽類 |
| SGG9 | 9 | 鉛及其化合物類 |
| SGG10 | 10 | 液體鹵代碳氫化合物類 |
| SGG11 | 11 | 汞及其化合物類 |
| SGG12 | 12 | 亞硝酸鹽及其混合物類 |
| SGG13 | 13 | 高氯酸鹽類 |
| SGG14 | 14 | 高錳酸鹽類 |
| SGG15 | 15 | 金屬粉末類 |
| SGG16 | 16 | 過氧化物類 |
| SGG17 | 17 | 疊氮化合物類 |
| SGG18 | 18 | 鹼類 |

”

7.2.6 特殊隔離規定和免除

7.2.6.1 “風險” 替換為 “危險” 。

7.2.6.2 在 “例如” 以下，將 “對第 3 類隔離，但是 “遠離” 第 4.1 類和第 8 類” 替換為 “SG5（“對第 3 類隔離）”、 “SG8（積載 “遠離” 第 4.1 類）” 和 “SG13（積載 “遠離第 8 類）” ” 。

7.2.6.3 在條款 .2 中，將最後的一句話替換為 “具有相同的隔離表 7.2.6.3.1、7.2.6.3.2 或者 7.2.6.3.3 的物質彼此是相容的”。在條款.2 後，增加了一個新的條款.3，內容如下：

“.3 表 7.2.6.3.4 中的物質，除了應有注意外，須考慮 7.2.6.1.1

到 7.2.6.1.4 條款所述的危險反應。”

在表 7.2.6.3.1、7.2.6.3.2 和 7.2.6.3.3 中，第 4 列的標題分別將“風險”替換為“危險”。

7.2.6.3.3 在現行的表 7.2.6.3.3 後，增加新的表 7.2.6.3.4，內容如下：

“表 7.2.6.3.4

| 聯合國編號* | 正確運輸名稱 | 類別 | 副危險性 | 包裝類 |
|--------|---|-----|---------|---------|
| 3101 | B 型的有機過氧化物，液體的 | 5.2 | | - |
| 3102 | B 型的有機過氧化物，固體的 | 5.2 | 1 和/或 8 | - |
| 3103 | C 型的有機過氧化物，液體的 | 5.2 | 無或 8 | - |
| 3104 | C 型的有機過氧化物，固體的 | 5.2 | 無或 8 | - |
| 3105 | D 型的有機過氧化物，液體的 | 5.2 | 無或 8 | - |
| 3106 | D 型的有機過氧化物，固體的 | 5.2 | 無或 8 | - |
| 3107 | E 型的有機過氧化物，液體的 | 5.2 | 無或 8 | - |
| 3108 | E 型的有機過氧化物，固體的 | 5.2 | 無或 8 | - |
| 3109 | F 型的有機過氧化物，液體的 | 5.2 | 無或 8 | - |
| 3110 | F 型的有機過氧化物，固體的 | 5.2 | 無或 8 | - |
| 3111 | B 型的有機過氧化物，液體的，控溫的 | 5.2 | 1 和/或 8 | - |
| 3112 | B 型的有機過氧化物，固體的，控溫的 | 5.2 | 1 和/或 8 | - |
| 3113 | C 型的有機過氧化物，液體的，控溫的 | 5.2 | 無或 8 | - |
| 3114 | C 型的有機過氧化物，固體的，控溫的 | 5.2 | 無或 8 | - |
| 3115 | D 型的有機過氧化物，液體的，控溫的 | 5.2 | 無或 8 | - |
| 3116 | D 型的有機過氧化物，固體的，控溫的 | 5.2 | 無或 8 | - |
| 3117 | E 型的有機過氧化物，液體的，控溫的 | 5.2 | 無或 8 | - |
| 3118 | E 型的有機過氧化物，固體的，控溫的 | 5.2 | 無或 8 | - |
| 3119 | F 型的有機過氧化物，液體的，控溫的 | 5.2 | 無或 8 | - |
| 3120 | F 型的有機過氧化物，固體的，控溫的 | 5.2 | 無或 8 | - |
| 1325 | 易燃固體，有機的，未另列明的 在表 2.5.3.2.4 中“豁免”下具有技術名稱 | 4.1 | 無 | II, III |

* 除具有技術名稱“過乙酸”物質外

”

7.2.6.4 將現行的段落 7.2.6.4 重新編號為新的段落 7.2.6.5，增加新的段落 7.2.6.4，內容如下：

“7.2.6.4 儘管表 7.2.6.3.2.4，但應有注意須繼續考慮 7.2.6.1.1 到 7.2.6.1.4 規定所述的危險反應。”

7.2.8 隔離代碼

7.2.8 在條目 SG1 中，替換描述如下：

“貼有第 1 類副危險標誌的包件，按第 1 類第 1.3 小類隔離。在涉及到該貨物與第 1 類貨物的隔離的情況下，按照主危險的要求進行隔離” ，

並且修改在 7.2.8 中 SG 代碼描述，包括隔離類相應的 SGG 代碼，內容如下：

| 隔離代碼 | 描述 |
|------|---|
| SG20 | “遠離” SGG1 – 酸類。 |
| SG21 | “遠離” SGG18 – 鹼類。 |
| SG24 | “遠離” SGG17 – 疊氮化合物類。 |
| SG28 | “遠離” SGG2 – 氮化合物類和含有氮化合物或者鹽類的爆炸物類。 |
| SG30 | “遠離” SGG7 – 重金屬和它們的鹽類。 |
| SG31 | “遠離” SGG9 – 鉛及其化合物類。 |
| SG32 | “遠離” SGG10 – 液體鹵代碳氮化合物類。 |
| SG33 | “遠離” SGG15 – 金屬粉末。 |
| SG34 | 當含有氮化合物類，“遠離” SGG4 – 氯酸鹽類或 SGG13 – 高氯酸鹽類和含有氯酸鹽類或高氯酸鹽類的爆炸物類。 |
| SG35 | “遠離” SGG1 – 酸類。 |
| SG36 | “遠離” SGG18 – 鹼類。 |
| SG38 | “隔離” SGG2 – 氮化合物類。 |
| SG39 | “隔離” SGG2 – 除過硫酸銨（聯合國編號 1444）的氮化合物類。 |
| SG40 | “隔離” SGG2 – 除過硫酸銨和/或過硫酸鉀和/或過硫酸鈉的混合物的氮化合物類。 |
| SG42 | “隔離” SGG3 – 溴酸鹽類。 |
| SG45 | “隔離” SGG4 – 氯酸鹽類。 |

| | |
|------|-----------------------|
| SG47 | “隔離” SGG5 – 亞氯酸鹽類。 |
| SG49 | “隔離” SGG6 – 氰化物類。 |
| SG51 | “隔離” SGG8 – 亞氯酸鹽類。 |
| SG54 | “隔離” SGG11 – 汞及其化合物類。 |
| SG56 | “隔離” SGG12 – 亞硝酸鹽類。 |
| SG58 | “隔離” SGG13 – 高氯酸鹽類。 |
| SG59 | “隔離” SGG14 – 高錳酸鉀類。 |
| SG60 | “隔離” SGG16 – 過氧化物類。 |
| SG61 | “隔離” SGG15 – 金屬粉末類 |
| SG70 | 對於硫化砷，“隔離” SGG1 – 酸類。 |
| SG75 | “隔離” SGG1a – 強酸類。 |

增加三個新的隔離代碼，內容如下：

| | |
|------|--|
| SG76 | 按照第 7 類進行隔離。 |
| SG77 | 按照第 8 類進行隔離。當該貨物與第 7 類貨物進行隔離時，不需要遵守該隔離規定。 |
| SG78 | 對於 1.1 小類、1.2 小類和 1.5 小類“用介於中間的整個艙室或貨艙縱向隔離”。 |

附件

附件舉的例子中，將段落 1.1、3.2 和 4.2 “風險” 替換為 “危險”。

第 7.3 章

關於貨物運輸組件裝載和使用的託運操作和相關規定

7.3.4 貨物運輸組件內的隔離

7.3.4.2.1 “風險” 替換為 “危險”。

7.3.4.2.2.3 “風險” 替換為 “危險”。

7.3.7 溫度控制下的貨物運輸組件

將現行的 7.3.7 規定替換為如下內容：

“7.3.7 溫度控制下的貨物運輸組件

7.3.7.1 前言

7.3.7.1.1 如果某種物質（如有機過氧化物和聚合或自反應物質）的溫度超過其以包裝形式運輸時的特定值時，就可能導致自行加速分解或發生猛烈爆炸聚合。為防止這種分解或聚合的發生，在運輸中有必要控制這種物質的溫度。其他由於安全原因不需要控制溫度的物質由於商業原因可以在控制溫度條件下運輸。

7.3.7.1.2 某些特定物質溫度控制的規定是基於假定在運輸過程中，貨物周圍的溫度不超過 55°C，而且僅僅是每 24 小時周期內相對短的時間內達到這一溫度。

7.3.7.2 一般規定

7.3.7.2.1 當一些含有自反應物質、有機過氧化物和聚合物質的包件被裝在一個密閉的運輸組件中，物質的總量、包件的形式和數量以及堆碼安排不應產生爆炸的危險。

7.3.7.2.2 這些條款適用於根據 2.4.2.3.4 要求的某些自反應物質、根據 2.5.3.4.1 要求的某些有機過氧化物和根據 2.4.2.5.2 要求或只可以在控制溫度條件下運輸第 3.3 章特殊規定 386 條款的某些聚合物質。

7.3.7.2.3 這些條款也適用於以下物質的運輸：

- .1 第 3.2 章危險貨物一覽表第 2 列中列明的正確運輸名稱或根據 3.1.2.6 含有“穩定的”字樣，和

.2 自加速分解溫度（SADT）或自加速聚合溫度（SAPT）¹取決於提供用於運輸的物質（具有或沒有化學穩定性）：

.1 對於單一包裝和中型散裝容器不高於 50°C；或

.2 對於可移動罐櫃不高於 45°C。

當化學抑制劑沒有用於穩定一種會產生大量有毒熱量和氣體或蒸氣的自反應化學物質，在通常運輸情況下，這些物質需要在溫度控制下運輸，這些規定不適用於通過添加了化學抑制劑來穩定的物質，以至於自加速分解溫度（SADT）或自加速聚合溫度（SAPT）大於在段落 7.3.7.2.3.2.1 或 7.3.7.2.3.2.2 所規定的。

7.3.7.2.4 此外，如果一種自反應物質或有機過氧化物或一種正確運輸名稱含有“穩定的”詞語並且通常下沒有要求在溫度控制下運輸的物質，當溫度可能超過 55°C 時，可以要求在溫度控制情況下運輸。

7.3.7.2.5 “控制溫度”是物質被安全運輸的最大溫度。一旦溫度控制失敗，有必有實施應急措施。“應急溫度”是指實施上述措施的溫度。

7.3.7.2.6 控制和應急溫度的推導

¹ SAPT的確定應遵循依據《測試和標準手冊》第28節第II部分制定的自反應物質SADT測試程序。

| 容器類型 | 自加速分解溫度 ^a /自加速聚合溫度 ^a | 控制溫度 | 應急溫度 |
|-----------------|--|--|---|
| 單一包裝和 中型散裝容器 | 不高於 20°C 高於 20°C 但不高於 35°C 高於 35°C | 低於 SADT/SAPT20°C 低於 SADT/SAPT15°C 低於 SADT/SAPT10°C | 低於 SADT/SAPT10°C 低於 SADT/SAPT10°C 低於 SADT/SAPT5°C |
| 可移動罐櫃 | ≤45°C | 低於 SADT/SAPT10°C | 低於 SADT/SAPT5°C |

^a 也就是說，包裝運輸物質的包裝運輸物質的自加速分解溫度（SADT）/自加速聚合溫度（SAPT）。

7.3.7.2.7 控制和應急溫度源於使用 7.3.7.2.6 中表的自加速分解溫度（SADT）或自加速聚合溫度（SAPT），這些溫度被定義於在運輸中包件、中型散裝容器或可移動罐櫃的物質可能發生自加速分解或自加速聚合時的最低溫度。為了決定運輸中如果一種物質須取決於溫度控制，自加速分解溫度或自加速聚合溫度須確定，對於自反應物質、有機過氧化物、聚合物質物質和混合物，決定自加速分解溫度和自加速聚合溫度的規定分別在 2.4.2.3.4、2.5.3.4.2 和 2.4.2.5.2。

7.3.7.2.8 對於在 2.4.2.3.2.3 現已確定的自反應物質和在 2.5.3.2.4 現已確定的有機過氧化物，適當地提供了控制和應急溫度。

7.3.7.2.9 儘管實際的運輸溫度可以低於控制溫度，但是為了避免危險的相分離，須被挑選。

7.3.7.3 溫度控制下的運輸

7.3.7.3.1 貨物運輸組件使用前，製冷系統須進行一次徹底檢查和測試，以確保所有的部件運轉良好。

7.3.7.3.2 製冷劑氣體須按照生廠商對製冷系統操作指南的要求進行

替換。在充灌替代的製冷劑氣體前，須取得供應商的分析證書並檢查確認該氣體滿足製冷系統的規格。此外，如果擔心供應商的誠信和/或製冷劑氣體供應鏈，懷疑氣體被污染，則在使用前檢查替換的製冷劑氣體被污染的可能性。如果發現製冷劑氣體被污染，則禁止使用，鋼瓶須清晰標有“污染的”字樣，鋼瓶須密封並送去回收或者處理，並通知製冷劑氣體供應商和授權的分銷商以及供銷商和分銷商所在地國家有關當局。最後一次製冷劑替換的日期須包含在製冷系統的維護記錄。

註：污染可以使用火焰氫燈實驗、氣體檢測探測管實驗或氣相色譜法進行檢測，替換製冷劑氣體的鋼瓶可標註實驗結果和實驗日期。

- 7.3.7.3.3 在裝有不同溫度控制的物質的包件裝入同一運輸組件時，所有包件都須預先冷卻以免超過最低控制溫度。
 - 7.3.7.3.3.1 如果非控溫的物質和控溫物質裝於同一貨物運輸組件作為控溫物質運輸時，裝有需要冷卻物質的包件必須積載於從貨物運輸組件的門口易於抵達處。
 - 7.3.7.3.3.2 如果具有不同溫控的物質裝入同一個貨物運輸組件時，要求具有最低溫控的物質須積載於從貨物運輸組件的門口易於抵達處。
 - 7.3.7.3.3.3 貨物運輸組件的門須在緊急情況下很容易被打開，以便於清除內部的包件。須告知承運人運輸組件內不同物質的位置。對貨物須進行加固以防止打開組件門時貨物倒下來。包件必須安全積載以保證貨物間有充分的空氣循環。

7.3.7.3.4 須向船長提供關於製冷系統的操作說明、失控應變程序以及日常操作溫度的監控說明。必須配備 7.3.7.4.2.3、7.3.7.4.2.4 和 7.3.7.4.2.5 中所述系統備件，以便當製冷系統在運輸中出現故障時提供應急之用。

7.3.7.3.5 如果不能按照一般規定載運特殊物質，則詳細的運輸方法建議須提交有關當局批准。

7.3.7.4 溫度控制的方法

7.3.7.4.1 在運輸過程中，一種溫度控制方法是否合適取決於眾多的因素，在這些因素中，須考慮到：

- .1 擬運輸物質的控制溫度；
- .2 控制溫度和預測環境溫度的差值；
- .3 貨物運輸組件的隔熱能力，總傳熱率對貨物運輸組件不得高於 $0.4\text{W}/(\text{m}^2\cdot\text{K})$ ，對罐櫃則不得高於 $0.6\text{W}/(\text{m}^2\cdot\text{K})$ ；以及
- .4 航程的長短。

7.3.7.4.2 按照其能力由小到大的順序，防止控制溫度值過高的恰當方法應為：

- .1 隔熱，其條件是物質的初始溫度足夠低於控制溫度；
- .2 帶有製冷系統的隔熱，其條件是：
 - 載有足量的非易燃製冷劑（比如液態氮或固體二氧化碳），並留出合理的延遲餘量；

- 液態的氧氣或空氣不能作為製冷劑使用；
 - 即使製冷劑大部分已經消耗掉，還能保持一段恆定的冷卻效果；以及
 - 在貨物運輸組件的門口清楚地標明進入組件前必須通風（見 5.5.3）；
- .3 單一的機械製冷，其條件是該裝置是隔熱的，且運輸物質的閃點低於應急溫度加 5°C 之和時，在冷卻艙室使用防爆電器配件，以避免將物質中產生的易燃蒸汽點燃；
- .4 繼續談製冷和散熱系統的組合，其條件是：
- 兩種系統相互獨立；且
 - 符合 7.3.7.4.2.2 和 7.3.7.4.2.3 要求；
- .5 雙套機械製冷系統，其條件是：
- 除電源裝置一體外，兩套系統是相互獨立的；
 - 每個單獨系統都能足以保持住控制溫度值；且
 - 對於閃點低於應急溫度加 5°C 之和的物質，在製冷劑間使用防爆電器配件，以避免將物質中產生的易燃蒸汽點燃。

7.3.7.4.3 製冷設備及其控制系統處所須保證人員安全容易地接近，且所有的電器連接處防風雨侵入，在貨物運輸組件內部，須連續地測量溫度。須從組件內通風空間量取溫度，並使用兩部相互獨立的測量儀器。須通過選擇測量儀的型號和

安放位置，使測得的溫度能代表貨物的真實溫度。兩部測量儀中至少有一部的測量值須保持記錄，以便很容易地發現溫度的變化。每 4 到 6 小時須檢查溫度並記錄。

7.3.7.4.4 如果某種物質在低於 25°C 的控制溫度下運輸，貨物運輸組件上須配備一個聲光報警系統，該系統應有效的設定在不超過控制溫度的範圍內。該報警系統的工作須獨立於製冷系統的電源之外。

7.3.7.4.5 如果有必要為貨物運輸組件供電以操作製冷或加熱設備時，須保證安裝正確的連接插頭。對艙內積載，插頭最起碼使用符合 IEC60529 號出版物關於溫度分類 T4 和爆炸物類別 IIB 的電器設備規定的 IP55 封閉材料。但對艙面積載，這些插頭須使用符合 IEC60529 號出版物所規定 IP56 封閉材料。

7.3.7.5 自反應物質、有機過氧化物和聚合物質的特殊規定

7.3.7.5.1 對 UN3231 和 UN3232 的自反應物質（第 4.1 類）和 UN3111 和 UN3112 的有機過氧化物（第 5.2 類）來說，須使用下列一種在 7.3.7.4.2 所述的溫度控制方法：

- .1 在 7.3.7.4.2.4 和 7.3.7.4.2.5 所述的方法；或
- .2 當運輸中最大的環境溫度預計至少低於控制溫度 10°C 時，採用 7.3.7.4.2.3 的方法。

7.3.7.5.2 對 UN3233 至 UN3240 的自反應物質（第 4.1 類）、UN3113 至 UN3120 的有機過氧化物（第 5.2 類）以及 UN3533 和 UN3534 的聚合物質或者依照 3.1.2.6.2 添加“溫度控制的”字樣作為正確運輸名稱一部分的物質來

說，須使用下列一種方法：

- .1 在 7.3.7.4.2.4 或 7.3.7.4.2.5 所述的方法；
- .2 當運輸中最大的環境溫度預計至少低於控制溫度 10°C 時，採用 7.3.7.4.2.3 的方法；或 t
- .3 僅僅對於短程國際航線來說（見 1.2.1），當運輸中最大的環境溫度預計至少低於控制溫度 10°C 時，採用 7.3.7.4.2.1 和 7.3.7.4.2.2 的方法。

7.3.7.6 溫度控制下運輸閃點低於 23°Cc.c. 易燃氣體或液體的特殊規定

7.3.7.6.1 如果閃點低於 23°Cc.c. 易燃氣體或液體包裝或裝載在配有製冷或加熱系統的貨物運輸組件中，此製冷或加熱設備須符合 7.3.7.4 規定。

7.3.7.6.2 當閃點低於 23°Cc.c 且出於安全因素不需要溫度控制的易燃液體由於商業因素在溫度控制情況下運輸，需配備電子防爆裝置，除非該物質預先冷卻且至少在低於閃點 10°C 溫度控制下運輸。一旦非防爆製冷系統失效，系統須切斷電源。如果溫度上升到低於閃點 10°C，該系統須不能重新通電。

7.3.7.6.3 當出於安全因素不需要溫度控制的易燃氣體由於商業因素在溫度控制下運輸時，需要配備防爆電子裝置。

7.3.7.7 船上載運車輛的特殊規定

隔熱、製冷和機械製冷的車輛須視情況滿足 7.3.7.4 和 7.3.7.5 規定。另外，機械製冷車輛的製冷設備須能獨立

運轉，而不使用車輛發動機的動力。

7.3.7.8 批准

有關當局可對短程國際航線或低的環境溫度等運輸條件批准使用不太嚴格的溫度控制方法或配有人工製冷。”

第 7.4 章

集裝箱船的積載和隔離

7.4.2 積載要求

7.4.2.4.1 “風險”替換為“危險”（兩次）。

7.4.2.3.2 替換現有的段落，內容如下：

“7.4.2.3.2 裝載甲板上閃點低於 23°Cc.c. 易燃氣體或易燃液體的集裝箱，須積載於最小水平距離 2.4 米和垂直遠離任何潛在的火源。”

第 7.6 章

雜貨船的積載和隔離

7.6.2 積載和操作規定

7.6.2.3.1 “風險”替換為“危險”（兩次）。

7.6.3 隔離規定

7.6.3.1.2 “風險”替換為“危險”。

第 7.7 章

載駁船上船載駁

7.7.3 駁船裝載

7.7.3.6 “風險” 替換為 “危險” 。

7.7.3.7.3 “風險” 替換為 “危險” 。

第 7.8 章

有關發生涉及危險貨物事故和防火特殊要求

7.8.1 一般規定

7.8.1.1 在 “船舶載運危險貨物應急措施 (EmS)” 前增加了 “修改的” 字樣。

7.8.4 涉及放射性物質事故的特殊規定

7.8.4.4 在 “船舶載運危險貨物應急措施 (EmS)” 前增加了 “修改的” 字樣。

第 7.9 章

免除、批准和證書

7.9.3 指定的國家主要主管機關聯繫信息

根據《IMDG 規則》，更新了下列國家主管機關的聯繫信息：

| | |
|------|---|
| 阿塞拜疆 | Ministry of Emergency Situations of the Republic of Azerbaijan State Agency for Safe Working in Industry and Mountain-Mine Control 26 Najafgulu Rafiyev Street Baku Khatai Region AZ 1025 Azerbaijan Telephone: +994 12 512-15-01 Telefax: +994 12 512-25-01 Email: dag-meden@fhn.gov.az |
|------|---|

| | |
|------|---|
| 智利 | <p>Dirección General del Territorio Marítimo y de Marina Mercante Empcontra Milton Pizarro Barrella Dirección de Seguridad y Operaciones Marítimas Departamento Policía Marítima y Prevención de Riesgos División Cargas Peligrosas Subida Cementerio No.300, Playa Ancha Valparaíso 2520000 Chile Telephone: +56-32-2208607 +56-32-2208656 Email: mpizarrob@directemar.cl mmunoza@directemar.cl gsage@directemar.cl</p> |
| 厄瓜多爾 | <p>SUBSECRETARIA DE PUERTOS Y TRANSPORTE MARITIMO Y FLUVIAL ING. IVAN SOLORZANO VILLACIS EXPERTO EN INFRAESTRUCTURA PORTUARIA CDLA. LOS CEIBOS - AV. DEL BOMBERO Y LEPOLDO CARRERA - EDIF. “GRACE” EP-PETROECUADOR - 1ER PISO GUAYAQUIL GUAYAS Ecuador Telephone: 0059342592080 Email: isolorzano@mtop.gob.ec Website: http://www.obraspublicas.gob.ec</p> <p>SUBSECRETARIA DE PUERTOS Y TRANSPORTE MARITIMO Y FLUVIAL (SPTMF) Ing. Richard Villacís Jefe de Contaminación Av. del Bombero y Leopoldo Carrera – Cdla. Ceibos. Edif. EP-Petroecuador. 1er piso Guayaquil Ecuador Telephone: +593-62723008 Email: rvillacis@mtop.gob.ec</p> |

| | |
|------|---|
| | <p>Superintendencia del Terminal Petrolero de "El Salitral" (SUINSA) CPNV (SP) Raúl Aguirre Baldeón Superintendente Terminal Petrolero de el Salitral Guayaquil Ecuador Telephone: 0059345504901 Telefax: 0059342504901 Ext. 102 / 109 Email: suinsa_operaciones@mtop.gob.ec suinsa_radio@mtop.gob.ec raguirreb2000@hotmail.com</p> <p>Superintendencia del Terminal Petrolero de la Libertad (SUINLI) CPNV (SP) Roberto Ruiz Johns Superintendente Terminal Petrolero de la Libertad La Libertad Ecuador Telephone: 00592342785785 Telefax: 0059342785781 Email: suinli_operaciones@mtop.gob.ec suinli_radio@mtop.gob.ec rruiz@mtop.gob.ec</p> |
| 法羅群島 | <p>Sjóvinnustýrið Faroese Maritime Authority P.O. Box 26 Á Hálsi 1, P.O. Box 26 Sørvágur FO-380 Faroes, Denmark Inni á Støð, P. O. Box 26 FO-375 Miðvágur, Faroe Islands Telephone: +298 35 5 6 00 Telefax: +298 35 5 6 01 Email: fma@fma.fo Website: https://www.fma.fo</p> |
| 法國 | <p>Ministère de la Transition Ecologique et Solidaire Adjoint au Chef de la mission transport de matières dangereuses Mr Pierre DUFOUR MTES – DGPR – Mission Transport de matières dangereuses (MTMD) Tour Séquoia - Pièce 23-39 92055 Paris La Défense Cedex France Telephone: +33 (0) 1 40 81 14 96 Telefax: +33 1 40 81 86 41 Email: pierre.dufour@developpement-durable.gouv.fr</p> <p><i>Organizations authorized for packagings, large packagings and intermediate bulk containers (IBCs) *</i></p> |

| | |
|--|--|
| | <p>1 Association des Contrôleurs Indépendants (ACI) 22, rue de l'Est 92100 Boulogne-Billancourt France</p> |
| | <p>2 APAVE 191, rue de Vaugirard 75738 Paris Cedex 15 France</p> |
| | <p>3 Association pour la Sécurité des Appareils à Pression (ASAP) Continental Square – BP 16757 95727 Roissy-Charles de Gaulle Cedex France</p> |
| | <p>4 Bureau de Vérifications Techniques (BVT) ZAC de la Cerisaie - 31, rue de Montjean 94266 Fresnes Cedex France</p> |
| | <p>5 Bureau Veritas 67-71, rue du Château 92200 Neuilly-sur-Seine France</p> |
| | <p>6 Centre Français de l'Emballage Agréé (CeFEA) 5, rue Janssen 75019 Paris France</p> |
| | <p>7 Laboratoire d'Études et de Recherches des Emballages Métalliques (LEREM) Marches de l'Oise – 100, rue Louis-Blanc 60160 Montataire France</p> |
| | <p>8 Laboratoire National de métrologie et d'Essais (LNE) 1, rue Gaston-Boissier 75724 Paris Cedex 15 France</p> |

| | |
|----|--|
| | <p><i>Organizations authorized for pressure receptacles</i></p> <p>1 Association des Contrôleurs Indépendants (ACI) (Voir coordonnées ci-dessus)</p> <p>2 APAVE (Voir coordonnées ci-dessus)</p> <p>3 Association pour la Sécurité des Appareils à Pression (ASAP) (Voir coordonnées ci-dessus)</p> <p>4 Bureau Veritas (Voir coordonnées ci-dessus)</p> <p><i>Organizations authorized for tanks and multiple-element gas containers (MEGCs) ²</i></p> <p>1 Association des Contrôleurs Indépendants (ACI) (Voir coordonnées ci-dessus)</p> <p>2 APAVE (Voir coordonnées ci-dessus)</p> <p>3 Bureau Veritas (Voir coordonnées ci-dessus)</p> |
| 德國 | <p>Ministry of Transport and digital Infrastructure Division G 24 - Transport of Dangerous Goods Robert-Schuman-Platz 1</p> <p>Telephone: +49 (0) 228 300 2551 Email: ref-g24@bmvi.bund.de</p> |
| 冰島 | <p>Icelandic Transport Authority (ICETRA) Armuli 2 Reykjavik 108 Iceland Telephone: +354 480 6000 Email: samgongustofa@samgongustofa.is</p> |
| 伊朗 | <p>Ports and Maritime Organization PMO. No.1. Shahidi St. Haghani Exp'way Vanak Sq. Tehran 1518663111 Iran (Islamic Republic of) Telephone: +98 2184932081/2 Email: info@pmo.ir</p> |

² 與主管機關聯繫以獲取關於授權區域的更多信息。

| | |
|-----|---|
| 意大利 | <p>Comando Generale del Corpo delle Capitanerie di Porto Lt. Cdr. (IT.C.G.) Giuseppe Notte Ufficio II - Merci Pericolose Via dell'Arte, 16 Roma 00144 Italy Telephone: +39 06 5908 4267 +39 06 5908 4652 Telefax: +39 06 5908 4630 Email: cgcp@pec.mit.gov.it segreteria.reparto6@mit.gov.it Website: http://www.guardiacostiera.gov.it</p> |
| 日本 | <p>Inspection and Measurement Division Maritime Bureau Ministry of Land, Infrastructure, Transport and Tourism 2-1-3 Kasumigaseki, Chiyoda-ku Tokyo Japan Telephone: +81 3 5253 8639 Telefax: +81 3 5253 1644 Email: hqt-MRB_KSK@ml.mlit.go.jp</p> <p>Packaging Testing and Certification Institute Nippon Hakuyohin Kentei Kyokai (HK) (The Ship Equipment Inspection Society of Japan) 3-32, Kioi-Cho, Chiyoda-ku Tokyo Japan Telephone: +81 3 3261 6611 Telefax: +81 3 3261 6979</p> <p>Packagings, IBCs and large packagings in conformity with the IMDG Code will be marked "J", "J/JG" or "J/HK".</p> |

| | |
|-----|---|
| 墨西哥 | <p><i>Stowage, segregation, labelling and documentation of goods</i> Coordinación General de Puertos y Marina Mercante Secretaría de Comunicación y Transportes Boulevard Adolfo López Mateos No. 1990 Col. Los Alpes Tlacopac, Del. Álvaro Obregón, C.P. 01010 México, Distrito Federal Telephone: +52 55 5723 9300 Email: coordgral.cgpm@scgpm.gob.mx Coordinador General: Ruiz de Teresa Guillermo Raúl</p> <p><i>Receipt and processing of notifications in the event of a package falling overboard</i> Secretaría de Marina Eje 2 Oriente, Tramo Heroica Escuela Naval Militar No. 861 Colonia Los Cipreses, C.P. 04830 México, Distrito Federal. Telephone: +52 55 56 24 65 00 (extention: 6388) Email: ayjemg@semar.gob.mx</p> <p>Jefe del Estado Mayor General de la Armada de México: Vicealmirante C.G. DEM Joaquín Zetina Angulo</p> <p><i>Laboratory testing of packagings containing dangerous goods</i> Entidad Mexicana de Acreditación, A.C. Mariano Escobedo, No.564, Col. Nueva Anzures, Delegación Miguel Hidalgo C.P. 11590, Ciudad de México México Telephone: +52 55 91484300 Email: Maribel.lopez@ema.org.mx Directora Ejecutiva: Mtra. María Isabel López Martínez</p> |
|-----|---|

| | |
|-----|---|
| 蒙古 | <p>Maritime Administration of Mongolia Division of Ship Registration and Regulation Government Building 11 Sambu's street 11 Chingeltei district Ulaanbaatar 211238 Mongolia Telephone: 976-51-261490 Telefax: +976-11-310642 Email: info@monmarad.gov.mn operation@mngship.org Website: http://monmarad.gov.mn</p> |
| 秘魯 | <p>Dirección General de Capitanías y Guardacostas (DICAPI) Jirón Constitución No.150 Callao Peru Telephone: +51 12099300 Anexo: 6757/6792 Email: jefemercanciaspeligrosas@dicapi.mil.pe</p> |
| 葡萄牙 | <p>Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (DGRM) Avenida Brasília Lisboa 1449-030 Portugal Telephone: +351 213 035 700 Telefax: +351 213 035 702 Email: dgrm@dgrm.mm.gov.pt</p> |
| 新加坡 | <p>Maritime and Port Authority of Singapore Operations Divison, Assistant Director (Marine Environment & Safety) Capt Charles Alexandar De Souza #19-00 Tanjong Pagar Complex 7B Keppel Road, Singapore 089055 Telephone: +6563252420 Telefax: +6563252454 Email: Charles_Alexandar_De_Souza@mpa.gov.sg</p> |

| | |
|-----|--|
| 土耳其 | <p>Ministry of Transport Maritime Affairs and Communications Directorate General for Regulation of Dangerous Goods and Combined Transport GMK Bulvarı No:128A/7 Maltepe/Ankara 06570 Turkey Telephone: +90 312 232 38 50 +90 312 232 12 49 Fax: +90 312 231 51 89 Email: dangerousgoods@udhb.gov.tr</p> <p>Packing, Testing and Certification Turkish Standards Institution (TSE) 100. Yıl Bulvarı No:99 Kat:2 Ostim/Ankara Turkey Telephone: +90 312 592 50 00-5039 Fax: +90 312 592 50 05 Email: oaalper@tse.org.tr</p> <p>Türk Loydu Vakfı İktisadi İşletmesi Tersaneler Caddesi 26, 34944 Turkey Telephone: +90 216 581 37 00 Fax: +90 216 581 38 00 Email: info@turkloydu.org</p> |
| 英國 | <p>Department of Economic Development Mr David Morter Isle of Man Ship Registry St Georges Court Upper Church Street Douglas Douglas IM1 1EE Isle of Man (United Kingdom) Telephone: +44 1624 688500 Email: marine.survey@gov.im Website: http://www.iomshipregistry.com</p> |

| | |
|----|---|
| 美國 | <p>US Department of Transportation Pipeline and Hazardous Materials Safety Administration International Program Coordinator 1200 New Jersey Ave S.E. Washington, D.C. 20590 United States Telephone: +1 202 366 8553 Telefax: +1 202 366 7435 Email: infocntr@dot.gov</p> <p>United States Coast Guard – Commandant (CG-ENG-5) U.S. Coast Guard, Stop 7509 Attn: Chief, Hazardous Materials Division 2703 Martin Luther King Jr. Ave. SE Washington, D.C. 20593-7509 United States Telephone: +1 202 372 1420 Email: hazmatstandards@uscg.mil</p> |
|----|---|

附錄 A

類屬的和未另列明條目的正確運輸名稱清單

在類屬的和未另列明的清單中在正確運輸名稱，第 2 欄，“風險”替換為“危險”。

在表中對於第 2.1 類，在“通用條目”中 3510 後，增加如下新條目：

| | | | |
|-----|-----------|------|-----------------|
| 2.1 | 見 2.0.6.6 | 3537 | 含有易燃液體的物品，未另列明的 |
|-----|-----------|------|-----------------|

在表中對於第 2.2 類，在“通用條目”中 3511 後，增加如下新條目：

| | | | |
|-----|-----------|------|---------------------|
| 2.2 | 見 2.0.6.6 | 3538 | 含有非易燃、無毒氣體的物品，未另列明的 |
|-----|-----------|------|---------------------|

在表中對於第 2.3 類，在“通用條目”中 3512 後，增加如下新條目：

| | | | |
|-----|-----------|------|-----------------|
| 2.3 | 見 2.0.6.6 | 3539 | 含有有毒氣體的物品，未另列明的 |
|-----|-----------|------|-----------------|

在表中對於第 3 類，在“通用條目”中 3526 後，增加如下新條目：

| | | | |
|---|-----------|------|-----------------|
| 3 | 見 2.0.6.6 | 3540 | 含有易燃液體的物品，未另列明的 |
|---|-----------|------|-----------------|

在表中對於第 4.1 類，在“通用條目”中 3534 後，增加如下新條目：

| | | | |
|-----|-----------|------|-----------------|
| 4.1 | 見 2.0.6.6 | 3541 | 含有易燃固體的物品，未另列明的 |
|-----|-----------|------|-----------------|

在表中對於第 4.2 類，在“通用條目”中 3200 後，增加如下新條目：

| | | | |
|-----|-----------|------|------------------|
| 4.2 | 見 2.0.6.6 | 3542 | 含有易自燃物質的物品，未另列明的 |
|-----|-----------|------|------------------|

在表中對於第 4.3 類，在“通用條目”中 2813 後，增加如下新條目：

| | | | |
|-----|-------------|------|------------------------|
| 4.3 | See 2.0.6.6 | 3543 | 含有遇水放出易燃氣體的物質的物品，未另列明的 |
|-----|-------------|------|------------------------|

在表中對於第 5.1 類，在“通用條目”中 3139 後，增加如下新條目：

| | | | |
|-----|-----------|------|------------------|
| 5.1 | 見 2.0.6.6 | 3544 | 含有氧化性物質的物品，未另列明的 |
|-----|-----------|------|------------------|

在表中對於第 5.2 類，在“特定條目”後增加“通用條目”部分，新增條目如下：

| | | | |
|-----|-----------|------|-------------------|
| 5.2 | 見 2.0.6.6 | 3545 | 含有有機過氧化物的物品，未另列明的 |
|-----|-----------|------|-------------------|

在表中對於第 6.1 類，在“通用條目”中在 3535 後，增加如下新條目：

| | | | |
|-----|-----|------|--------------------|
| 6.1 | 4.1 | 3535 | 有毒固體，易燃的，無機的，未另列明的 |
|-----|-----|------|--------------------|

在表中對於第 6.1 類，在“通用條目”中在 3462 後，增加如下新條目：

| | | | |
|-----|-----------|------|-----------------|
| 6.1 | 見 2.0.6.6 | 3546 | 含有有毒物質的物品，未另列明的 |
|-----|-----------|------|-----------------|

在表中對於第 8 類，在“通用條目”中在 3267 後，增加如下新條目：

| | | | |
|---|-----------|------|------------------|
| 8 | 見 2.0.6.6 | 3547 | 含有腐蝕性物質的物品，未另列明的 |
|---|-----------|------|------------------|

在表中對於第 9 類，在“通用條目”中在 3335 後，增加如下新條目：

| | | | |
|---|-----------|------|-------------------|
| 9 | 見 2.0.6.6 | 3548 | 含有雜類危險貨物的物品，未另列明的 |
|---|-----------|------|-------------------|

索引

條目“2-二甲胺基乙基丙烯酸酯”在“物質、材料或物品”欄的最後增加“穩定的”。

在中文名稱索引中插入如下新的條目：

| 物質、材料或物品 | 海洋污染物 | 類別 | 聯合國編號 |
|-------------------------------|-------|-----|-------|
| 含有易燃氣體的物品，未另列明的 | - | 2.1 | 3537 |
| 含有非易燃、無毒氣體的物品，未另列明的 | - | 2.2 | 3538 |
| 含有有毒氣體的物品，未另列明的 | - | 2.3 | 3539 |
| 含有易燃液體的物品，未另列明的 | - | 3 | 3540 |
| 含有易燃固體的物品，未另列明的 | - | 4.1 | 3541 |
| 含有易自燃物質的物品，未另列明的 | - | 4.2 | 3542 |
| 含有有遇水放出易燃氣體的物質的物品，未另列明的 | - | 4.3 | 3543 |
| 含有氧化性物質的物品，未另列明的 | - | 5.1 | 3544 |
| 含有有機過氧化物的物品，未另列明的 | - | 5.2 | 3545 |
| 含有有毒物質的物品，未另列明的 | - | 6.1 | 3546 |
| 含有腐蝕性物質的物品，未另列明的 | - | 8 | 3547 |
| 含有雜類危險貨物的物品，未另列明的 | - | 9 | 3548 |
| 二-(4-叔丁基環己基)過氧化二碳酸酯，見 | - | 5.2 | 3116 |
| 二異丁酰基過氧化物，見 | - | 5.2 | 3119 |
| 1-十二烯，見 | - | 3 | 2850 |
| 安裝在貨物運輸組件中的鋰電池組，鋰離子電池組或鋰金屬電池組 | - | 9 | 3536 |
| 1-苯基乙基氫過氧化物，見 | - | 5.2 | 3109 |
| O,O-二乙基-O-(2-氯-A-氰基苄亞氨基)硫代磷酸酯 | - | 4.1 | 3227 |
| 有毒固體，易燃的，無機的，未另列明的 | - | 6.1 | 3535 |

RESOLUTION MSC.442(99)
(adopted on 24 May 2018)

**AMENDMENTS TO THE INTERNATIONAL
MARITIME DANGEROUS GOODS (IMDG) CODE**

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.122(75), by which it adopted the International Maritime Dangerous Goods Code ("the IMDG Code"), which has become mandatory under chapter VII of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"),

RECALLING FURTHER article VIII(b) and regulation VII/1.1 of the Convention concerning amendment procedure for amending the IMDG Code,

HAVING CONSIDERED, at its ninety-ninth session, amendments to the IMDG 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 IMDG Code, the text of which is set out in the annexes 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 2019, 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 2020 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 from 1 January 2019;

5 REQUESTS the Secretary-General, for the purposes of 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 REQUESTS ALSO 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**AMENDMENTS TO THE INTERNATIONAL MARITIME
DANGEROUS GOODS (IMDG) CODE
(AMENDMENT 39-18)****Table of Contents**

Insert a new line for "2.0.6 Classification of articles as articles containing dangerous goods N.O.S."

Amend the contents for chapter 2.8 to read as follows:

- "2.8.1 Definition, general provisions and properties
- 2.8.2 General classification provisions
- 2.8.3 Packing group assignment for substances and mixtures
- 2.8.4 Alternative packing group assignment methods for mixtures: stepwise approach
- 2.8.5 Substances not accepted for transport"

Amend the subtitle of 4.2.6 to read "Additional provisions for the use of road tank vehicles and road gas elements vehicles".

Amend the title of chapter 5.3 to read "Placarding and marking of cargo transport units and bulk containers".

Amend the subtitle of chapter 5.3.2 to read "Marking".

In the title of chapter 6.1, delete "(other than for class 6.2 substances)".

Amend the title of chapter 6.8 to read "Provisions for road tank vehicles and road gas elements vehicles"

**PART 1
GENERAL PROVISIONS, DEFINITIONS AND TRAINING****Chapter 1.1
General provisions****1.1.2 Conventions****1.1.2.2 International Convention for the Prevention of Pollution from Ships (MARPOL)****Annex III****Regulations for the prevention of pollution by harmful substances carried by sea in packaged form**

Under the existing heading, a new chapter title "**Chapter 1 – General**" is added before the existing Regulation 1.

A new Regulation 1 is added as follows:

"Regulation 1*Definitions*

For the purposes of this Annex:

- 1 *Harmful substances* are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the criteria in the appendix of this Annex.
- 2 *Packaged form* is defined as the forms of containment specified for harmful substances in the IMDG Code.
- 3 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.
- 4 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization.
- 5 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.1070(28).
- 6 *Audit Standard* means the Code for Implementation.

The subsequent regulations are renumbered in this subsection accordingly.

In the renumbered Regulation 2, "Application", existing paragraph 1 with sub-paragraphs 1.1 and 1.2 are deleted. The existing paragraphs 2, 3, 4 and 5 are renumbered accordingly.

The existing Regulations 2 to 8 are renumbered as Regulations 3 to 9.

Before the appendix to Annex III (Criteria for the identification of harmful substances in packaged form) a new chapter 2 is added as follows:

"Chapter 2 – Verification of compliance with the provisions of this Annex**Regulation 10***Application*

Parties shall use the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in this Annex.

Regulation 11*Verification of compliance*

- 1 Every Party shall be subject to periodic audits by the Organization in accordance with the audit standard to verify compliance with and implementation of this Annex.
- 2 The Secretary-General of the Organization shall have responsibility for administering the Audit Scheme, based on the guidelines developed by the Organization.

3 Every Party shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization.

4 Audit of all Parties shall be:

- .1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization; and
- .2 conducted at periodic intervals, taking into account the guidelines developed by the Organization.

Appendix to Annex III

Criteria for the identification of harmful substances in packaged form

The chapeau of the appendix is replaced as follows with the corresponding footnotes:

"For the purpose of this Annex, substances, other than radioactive materials, identified by any one of the following criteria are harmful substances:

Chapter 1.2

Definitions, units of measurement and abbreviations

1.2.1 Definitions

Amend the following definitions as indicated below:

Animal material: replace "or animal foodstuffs" with "foodstuffs or feedstuffs derived from animals".

GHS: replace "sixth" with "seventh" and replace "ST/SG/AC.10/30/Rev.6" with "ST/SG/AC.10/30/Rev.7".

Liquids: in the footnote, replace "ECE/TRANS/225 (Sales No. E.14.VIII.1)" with "ECE/TRANS/257 (Sales No. E.16.VIII.1)".

Manual of Tests and Criteria: after "ST/SG/AC.10/11/Rev.6", insert "and Amend.1".

Add the following new definition:

"*IMO type 9 tank* means a road gas elements vehicle for the transport of compressed gases of class 2 with elements linked to each other by a manifold, permanently attached to a chassis, which is fitted with items of service equipment and structural equipment necessary for the transport of gases. Elements are cylinders, tubes and bundles of cylinders, intended for the transport of gases as defined in 2.2.1.1."

1.2.3 List of abbreviations

In the definition of EmS, add the word "Revised" before the word "Emergency".

Chapter 1.3 Training

1.3.1 Training of shore-side personnel

1.3.1.5 Recommended training needs for shore-side personnel involved in the transport of dangerous goods under the IMDG Code

In the table, in function 3 "Mark, label or placard dangerous goods", in the column for "Specific training requirements", in the first indent, replace "risk" with "hazard".

1.3.1.6 Indicative table describing sections of the IMDG Code or other relevant instruments that may be appropriate to be considered in any training for the transport of dangerous goods

In the table, replace column "Guidelines for packing of cargo transport units" with "CTU Code"

1.3.1.7 Related Codes and publications which may be appropriate for function-specific training

1.3.1.7.2 Add the word "Revised" before the word "Emergency" and delete ", as amended" at the end.

Chapter 1.4 Security provisions

1.4.3 Provisions for high consequence dangerous goods

1.4.3.1.5 Replace "subsidiary risks" with "subsidiary hazards".

1.4.3.2 Specific security provisions for high consequence dangerous goods

1.4.3.2.1 At the end, insert the following note:

"Note: In addition to the security provisions of this Code, competent authorities may implement further security provisions for reasons other than safety of dangerous goods during transport. In order to not impede international and multimodal transport by different explosives security marks, it is recommended that such marks be formatted consistent with an internationally harmonized standard (e.g. European Union Commission Directive 2008/43/EC)."

Chapter 1.5 General provisions concerning radioactive material

1.5.5 Radioactive material possessing other dangerous properties

1.5.5.1 Replace "subsidiary risk" with "subsidiary hazard".

**PART 2
CLASSIFICATION**

**Chapter 2.0
Introduction**

2.0.0 Responsibilities

2.0.0.2 In the second indent, replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.1 Classes, divisions, packing groups

2.0.1.5 At the end of the last sentence, replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.1.6 At the end of the sentence, replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.2 UN numbers and proper shipping names

2.0.2.2 In the second paragraph, replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.2.5.3 Replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.2.10 Replace "subsidiary risk(s)" with "subsidiary hazard(s)".

2.0.3 Classification of substances, mixtures and solutions with multiple hazards (precedence of hazard characteristics)

2.0.3.1 At the end of the first sentence, add "or to assign the appropriate entry for articles containing dangerous goods N.O.S (UN 3537 to 3548, see 2.0.6)".

2.0.4 Transport of samples

2.0.4 Add a new provision 2.0.4.3 as follows:

"2.0.4.3 Samples of energetic materials for testing purposes

2.0.4.3.1 Samples of organic substances carrying functional groups listed in tables A6.1 and/or A6.3 in appendix 6 (Screening Procedures) of the Manual of Tests and Criteria may be transported under UN 3224 (self-reactive solid type C) or UN 3223 (self-reactive liquid type C), as applicable, of class 4.1 provided that:

.1 the samples do not contain any:

- known explosives;
- substances showing explosive effects in testing;
- compounds designed with the view of producing a practical explosive or pyrotechnic effect; or
- components consisting of synthetic precursors of intentional explosives;

- .2 for mixtures, complexes or salts of inorganic oxidizing substances of class 5.1 with organic material(s), the concentration of the inorganic oxidizing substance is:
 - less than 15%, by mass, if assigned to packing group I (high hazard) or II (medium hazard); or
 - less than 30%, by mass, if assigned to packing group III (low hazard);
- .3 available data do not allow a more precise classification;
- .4 the sample is not packed together with other goods; and
- .5 the sample is packed in accordance with packing instruction P520 and special packing provisions PP94 or PP95 of 4.1.4.1, as applicable."

2.0.5 Transport of wastes

Add a new provision 2.0.6 as follows:

"2.0.6 Classification of articles as articles containing dangerous goods N.O.S.

Note: For articles which do not have an existing proper shipping name and which contain only dangerous goods within the permitted limited quantity amounts specified in column 7a of the Dangerous Goods List, see UN 3363 and special provision 301 of chapter 3.3.

- 2.0.6.1 Articles containing dangerous goods may be classified as otherwise provided by this Code under the proper shipping name for the dangerous goods they contain or in accordance with this section. For the purposes of this section "article" means machinery, apparatus or other devices containing one or more dangerous goods (or residues thereof) that are an integral element of the article, necessary for its functioning, and that cannot be removed for the purpose of transport. An inner packaging shall not be an article.
- 2.0.6.2 Such articles may in addition contain batteries. Lithium batteries that are integral to the article shall be of a type proven to meet the testing requirements of the Manual of Tests and Criteria, part III, subsection 38.3, except when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the article. Where a lithium battery installed in an article is damaged or defective, the battery shall be removed.
- 2.0.6.3 This section does not apply to articles for which a more specific proper shipping name already exists in the Dangerous Goods List of chapter 3.2.
- 2.0.6.4 This section does not apply to dangerous goods of class 1, class 6.2, class 7 or radioactive material contained in articles.
- 2.0.6.5 Articles containing dangerous goods shall be assigned to the appropriate class determined by the hazards present using, where applicable, the Precedence of Hazards table in 2.0.3.6 for each of the dangerous goods contained in the article. If dangerous goods classified as class 9 are

contained within the article, all other dangerous goods present in the article shall be considered to present a higher hazard.

- 2.0.6.6 Subsidiary hazards shall be representative of the primary hazard posed by the other dangerous goods contained within the article. When only one dangerous good is present in the article, the subsidiary hazard(s), if any, shall be the subsidiary hazard(s) identified in column 4 of the Dangerous Goods List. If the article contains more than one dangerous good and these could react dangerously with one another during transport, each of the dangerous goods shall be enclosed separately (see 4.1.1.6)."

Chapter 2.1

Class 1 – Explosives

2.1.1 Definitions and general provisions

2.1.1.1.3 After "producing a practical", delete the comma.

2.1.1.4 Hazard divisions

In the note under division 1.6, replace "risk" with "hazard".

2.1.2 Compatibility groups and classification codes

2.1.2.2 Compatibility groups and classification codes

In the first column of the table, in the row for compatibility group L, replace "risk" with "hazard".

2.1.3 Classification procedure

2.1.3.4 Exclusion from class 1

2.1.3.4.2.5 In note 2, at the end of the sentence, replace "risk" with "hazard".

2.1.3.5 Assignment of fireworks to hazard divisions

2.1.3.5.1.1 Replace the words "giving a positive result when tested in one of the HSL Flash composition tests in appendix 7 of the Manual of Tests and Criteria" with "containing flash composition (see note 2 of 2.1.3.5.5)".

2.1.3.5.5 Amend note 2 to read as follows:

"Note 2: "Flash composition" in this table refers to pyrotechnic substances in powder form or as pyrotechnic units as presented in the fireworks that are used in waterfalls, or to produce an aural effect or used as a bursting charge, or propellant charge unless:

- (a) the time taken for the pressure rise in the HSL Flash Composition Test in appendix 7 of the Manual of Tests and Criteria is demonstrated to be more than 6 ms for 0.5 g of pyrotechnic substance; or
- (b) the pyrotechnic substance gives a negative "-" result in the US Flash Composition Test in Appendix 7 of the Manual of Tests and Criteria."

In the table, amend the entry for "Waterfall" as follows: for classification 1.1G, amend the entry under "Specification" to read "Containing flash composition regardless of the results of Test Series 6 (see 2.1.3.5.1.1)". For classification 1.3G, amend the entry under "Specification" to read "Not containing flash composition".

Chapter 2.2 Class 2 – Gases

2.2.2.3 Class 2.3 Toxic gases

In the note, replace "risk" with "hazard".

2.2.3 Mixtures of gases

2.2.3.3 In the first sentence, replace "risk" with "hazard".

Chapter 2.3 Class 3 – Flammable liquids

2.3.2 Assignment of packing group

2.3.2.1 Replace "risk" with "hazard".

2.3.2.1.1 Replace "risk" with "hazard".

2.3.2.1.2 Replace "risk(s)" with "hazard(s)" twice.

2.3.2.2 In sub-paragraph .4, replace "30 litre" with "450 litre".

2.3.2.5 Replace provision 2.3.2.5 to read as follows:

"2.3.2.5 Viscous liquids which:

- have a flashpoint of 23°C or above and less than or equal to 60°C;
- are not toxic or corrosive;
- are not environmentally hazardous or are environmentally hazardous transported in single or combination packagings containing a net quantity per single or inner packaging of 5 litres or less, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8;
- contain not more than 20% nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen by dry mass; and
- are packed in receptacles of not more than 450 litre capacity,

are not subject to the provisions for the marking, labelling and testing of packages in chapters 4.1, 5.2 and 6.1, if:

- .1 in the solvent separation test (see part III, 32.5.1 of the Manual of Tests and Criteria) the height of the separated layer of solvent is less than 3% of the total height; and
- .2 the flowtime in the viscosity test (see part III, 32.4.3 of the Manual of Tests and Criteria) with a jet diameter of 6 mm is equal to or greater than:

- .1 60 s; or
- .2 40 s if the viscous liquid contains not more than 60% of class 3 substances.

The following statement shall be included in the transport document:
"Transport in accordance with 2.3.2.5 of the IMDG Code" (see 5.4.1.5.10)."

Chapter 2.4

Class 4 – Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases

2.4.0 Introductory note

In the introductory note, replace "additional subsidiary risk" with "additional subsidiary hazards".

2.4.2.3.2 Classification of self-reactive substances

2.4.2.3.2.2 In the second sentence, replace "subsidiary risks" with "subsidiary hazards".

2.4.2.3.2.3 At the end of the first paragraph, add a new sentence to read as follows:

"The formulations listed in packing instruction IBC520 of 4.1.4.2 and in portable tank instruction T23 of 4.2.5.2.6 may also be transported packed in accordance with packing method OP8 of packing instruction P520 of 4.1.4.1, with the same control and emergency temperatures, if applicable.",

and in the table, insert a new entry to read as follows:

| | | | | | |
|------|---|---------------------|-----|--|------|
| 3227 | PHOSPHOROTHIOIC ACID, O-[(CYANOPHENYL METHYLENE) AZANYL] O,O-DIETHYL ESTER | 82-91 (Z isomer) | OP8 | | (10) |
|------|---|---------------------|-----|--|------|

Remarks

In remark (2) after the table, replace "risk" with "hazard".

After remark (9), add a new remark (10) to read as follows:

"(10) This entry applies to the technical mixture in n-butanol within the specified concentration limits of the (Z) isomer."

2.4.2.3.3 Principles for classification of self-reactive substances

2.4.2.3.3.2 In sub-paragraphs .2 and .3, replace "risk" with "hazard".

2.4.2.5 Class 4.1 – Polymerizing substances and mixtures (stabilized)

2.4.2.5.2 Add the following new note at the end:

"**Note:** Substances meeting the criteria of a polymerizing substance and also for inclusion in classes 1 to 8 are subject to the requirements of special provision 386 of chapter 3.3."

Chapter 2.5
Class 5 – Oxidizing substances and organic peroxides

2.5.2 Class 5.1 – Oxidizing substances

Note Renumber the existing note as note 1, and add a new note 2 as follows:

"**Note 2:** By exception, solid ammonium nitrate based fertilizers shall be classified in accordance with the procedure as set out in the Manual of Tests and Criteria, part III, section 39."

2.5.3 Class 5.2 – Organic peroxides

2.5.3.2 Classification of organic peroxides

2.5.3.2.3 In the second sentence, replace "risks" with "hazards".

2.5.3.2.4 At the end of the note, add a new sentence to read as follows:

"The formulations listed in packing instruction IBC520 of 4.1.4.2 and in portable tank instruction T23 of 4.2.5.2.6 may also be transported packed in accordance with packing method OP8 of packing instruction P520 of 4.1.4.1, with the same control and emergency temperatures, if applicable."

In the table header, last column, replace "risks" with "hazards". In the table, insert the following new entries:

| | | | | | | | | | | |
|------|---|--|--|------|--|--|-----|-----|-----|--|
| 3109 | 1-PHENYLETHYL HYDROPEROXIDE | ≤ 38 | | ≥ 62 | | | OP8 | | | |
| 3116 | DI-(4-tert-BUTYLCYCLOHEXYL) PEROXYDICARBONATE | ≤ 42 (as a paste) | | | | | OP7 | 35 | 40 | |
| 3119 | DIISOBUTYRYL PEROXIDE | ≤ 42 (as a stable dispersion in water) | | | | | OP8 | -20 | -10 | |

After the table, in remarks (3), (13), (18) and (27), replace "risk" with "hazard".

2.5.3.3 Principles for classification of organic peroxides

2.5.3.3.2.2 In the first sentence, replace "risk" with "hazard".

2.5.3.3.2.3 Replace "risk" with "hazard".

Chapter 2.6
Class 6 – Toxic and infectious substances

2.6.2 Class 6.1 – Toxic substances

2.6.2.2 Assignment of packing groups to toxic substances

2.6.2.2.1 Replace "risk" with "hazard" three times.

2.6.2.2.4.1 In the note, at the end of the last sentence, replace the wording "(see 2.8.2.3)" with the words "(see 2.8.2.4)".

2.6.2.4 Classification of pesticides

2.6.2.4.1 In the second sentence, replace "risks" with "hazards".

2.6.2.4.3 Replace "risks" with "hazards".

2.6.3 Class 6.2 – Infectious substances**2.6.3.1 Definitions**

2.6.3.1.4 In the definition of "Patient specimens", after "*Patient specimens* are" replace "human or animal materials," with "those".

2.6.3.6 Infected animals

2.6.3.6.2 Delete paragraph 2.6.3.6.2.

Chapter 2.8
Class 8 – Corrosive substances

Replace entire chapter 2.8 with the following:

"Chapter 2.8**Class 8 – Corrosive substances**

2.8.1 Definition, general provisions and properties**2.8.1.1 Definition**

2.8.1.1.1 *Corrosive substances* are substances which, by chemical action, will cause irreversible damage to the skin, or, in the case of leakage, will materially damage, or even destroy, other goods or the means of transport.

2.8.1.1.2 For substances and mixtures that are corrosive to skin, general classification provisions are provided in section 2.8.2. Skin corrosion refers to the production of irreversible damage to the skin, namely, visible necrosis through the epidermis and into the dermis occurring after exposure to a substance or mixture.

2.8.1.1.3 Liquids and solids which may become liquid during transport, which are judged not to be skin corrosive shall still be considered for their potential to cause corrosion to certain metal surfaces in accordance with the criteria in 2.8.3.3.3.2.

2.8.1.2 Properties

2.8.1.2.1 In cases where particularly severe personal damage is to be expected, a note to that effect is made in the Dangerous Goods List in chapter 3.2 in the wording "causes (severe) burns to skin, eyes and mucous membranes".

2.8.1.2.2 Many substances are sufficiently volatile to evolve vapour irritating to the nose and eyes. If so, this fact is mentioned in the Dangerous Goods List in chapter 3.2 in the wording "vapour irritates mucous membranes".

- 2.8.1.2.3 A few substances may produce toxic gases when decomposed by very high temperatures. In these cases the statement "when involved in a fire, evolves toxic gases" appears in the Dangerous Goods List in chapter 3.2.
- 2.8.1.2.4 In addition to direct destructive action in contact with skin or mucous membranes, some substances in this class are toxic or harmful. Poisoning may result if they are swallowed, or if their vapour is inhaled; some of them even may penetrate the skin. Where appropriate, a statement is made to that effect in the Dangerous Goods List in chapter 3.2.
- 2.8.1.2.5 All substances in this class have a more or less destructive effect on materials such as metals and textiles.
- 2.8.1.2.5.1 In the Dangerous Goods List, the term "corrosive to most metals" means that any metal likely to be present in a ship, or in its cargo, may be attacked by the substance or its vapour.
- 2.8.1.2.5.2 The term "corrosive to aluminium, zinc, and tin" implies that iron or steel is not damaged in contact with the substance.
- 2.8.1.2.5.3 A few substances in this class can corrode glass, earthenware and other siliceous materials. Where appropriate, this is stated in the Dangerous Goods List in chapter 3.2.
- 2.8.1.2.6 Many substances in this class only become corrosive after having reacted with water, or with moisture in the air. This fact is indicated in the Dangerous Goods List in chapter 3.2 by the words "in the presence of moisture...". The reaction of water with many substances is accompanied by the liberation of irritating and corrosive gases. Such gases usually become visible as fumes in the air.
- 2.8.1.2.7 A few substances in this class generate heat in reaction with water or organic materials, including wood, paper, fibres, some cushioning materials and certain fats and oils. Where appropriate, this is indicated in the Dangerous Goods List in chapter 3.2.

2.8.2 General classification provisions

- 2.8.2.1 Substances and mixtures of class 8 are divided among the three packing groups according to their degree of danger in transport:
- .1 packing group I: very dangerous substances and mixtures;
 - .2 packing group II: substances and mixtures presenting medium danger; and
 - .3 packing group III: substances and mixtures that present minor danger.
- 2.8.2.2 Allocation of substances listed in the Dangerous Goods List in chapter 3.2 to the packing groups in class 8 has been made on the basis of experience taking into account such additional factors as inhalation risk (see 2.8.2.4) and reactivity with water (including the formation of dangerous decomposition products).
- 2.8.2.3 New substances and mixtures can be assigned to packing groups on the basis of the length of time of contact necessary to produce irreversible damage of intact skin tissue in accordance with the criteria in 2.8.3. Alternatively, for mixtures, the criteria in 2.8.4 can be used.

2.8.2.4 A substance or mixture meeting the criteria of class 8 having an inhalation toxicity of dusts and mists (LC₅₀) in the range of packing group I, but toxicity through oral ingestion or dermal contact only in the range of packing group III or less, shall be allocated to class 8 (see note under 2.6.2.2.4.1).

2.8.3 Packing group assignment for substances and mixtures

2.8.3.1 Existing human and animal data including information from single or repeated exposure shall be the first line of evaluation, as they give information directly relevant to effects on the skin.

2.8.3.2 In assigning the packing group in accordance with 2.8.2.3, account shall be taken of human experience in instances of accidental exposure. In the absence of human experience the grouping shall be based on data obtained from experiments in accordance with OECD Test Guideline 404 or 435. A substance or mixture which is determined not to be corrosive in accordance with OECD Test Guideline 430 or 431 may be considered not to be corrosive to skin for the purposes of these regulations without further testing.

2.8.3.3 Packing groups are assigned to corrosive substances in accordance with the following criteria (see table 2.8.3.4):

- .1 Packing group I is assigned to substances that cause irreversible damage of intact skin tissue within an observation period of up to 60 minutes starting after the exposure time of 3 minutes or less.
- .2 Packing group II is assigned to substances that cause irreversible damage of intact skin tissue within an observation period of up to 14 days starting after the exposure time of more than 3 minutes but not more than 60 minutes.
- .3 Packing group III is assigned to substances that:
 - .1 cause irreversible damage of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than 60 minutes but not more than 4 hours; or
 - .2 are judged not to cause irreversible damage of intact skin tissue but which exhibit a corrosion rate on either steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55°C when tested on both materials. For the purposes of testing steel, type S235JR+CR (1.0037 resp. St 37-2), S275J2G3+CR (1.0144 resp. St 44-3), ISO 3574 or Unified Numbering System (UNS) G10200 or a similar type or SAE 1020, and for testing aluminium, non-clad, types 7075-T6 or AZ5GU-T6 shall be used. An acceptable test is prescribed in the Manual of Tests and Criteria, part III, section 37.
Note: Where an initial test on either steel or aluminium indicates the substance being tested is corrosive, the follow-up test on the other metal is not required.

Table 2.8.3.4: Table summarizing the criteria in 2.8.3.3

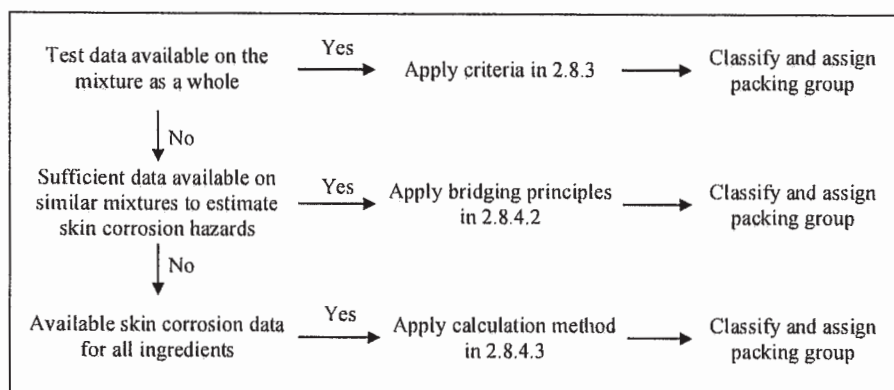
| Packing Group | Exposure Time | Observation Period | Effect |
|---------------|---------------|--------------------|---|
| I | ≤ 3 min | ≤ 60 min | Irreversible damage of intact skin |
| II | > 3 min ≤ 1 h | ≤ 14 d | Irreversible damage of intact skin |
| III | > 1 h ≤ 4 h | ≤ 14 d | Irreversible damage of intact skin |
| III | - | - | Corrosion rate on either steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55°C when tested on both materials |

2.8.4 Alternative packing group assignment methods for mixtures: stepwise approach

2.8.4.1 General provisions

2.8.4.1.1 For mixtures it is necessary to obtain or derive information that allows the criteria to be applied to the mixture for the purpose of classification and assignment of packing groups. The approach to classification and assignment of packing groups is tiered, and is dependent upon the amount of information available for the mixture itself, for similar mixtures and/or for its ingredients. The flow chart of figure 2.8.4.1 below outlines the process to be followed:

Figure 2.8.4.1: Stepwise approach to classify and assign packing group of corrosive mixtures



2.8.4.2 Bridging principles

2.8.4.2.1 Where a mixture has not been tested to determine its skin corrosion potential, but there are sufficient data on both the individual ingredients and similar tested mixtures to adequately classify and assign a packing group for the mixture, these data will be used in accordance with the following bridging principles. This ensures that the classification process uses the available data to the greatest extent possible in characterizing the hazards of the mixture.

- .1 **Dilution:** If a tested mixture is diluted with a diluent which does not meet the criteria for class 8 and does not affect the packing group of other ingredients, then the new diluted mixture may be assigned to the same packing group as the original tested mixture.
Note: in certain cases, diluting a mixture or substance may lead to an increase in the corrosive properties. If this is the case, this bridging principle cannot be used.
- .2 **Batching:** The skin corrosion potential of a tested production batch of a mixture can be assumed to be substantially equivalent to that of another untested production batch of the same commercial product when produced by or under the control of the same manufacturer, unless there is reason to believe there is significant variation such that the skin corrosion potential of the untested batch has changed. If the latter occurs, a new classification is necessary.
- .3 **Concentration of mixtures of packing group I:** If a tested mixture meeting the criteria for inclusion in packing group I is concentrated, the more concentrated untested mixture may be assigned to packing group I without additional testing.
- .4 **Interpolation within one packing group:** For three mixtures (A, B and C) with identical ingredients, where mixtures A and B have been tested and are in the same skin corrosion packing group, and where untested mixture C has the same class 8 ingredients as mixtures A and B but has concentrations of class 8 ingredients intermediate to the concentrations in mixtures A and B, then mixture C is assumed to be in the same skin corrosion packing group as A and B.
- .5 **Substantially similar mixtures:** Given the following:
 - .1 two mixtures: (A+B) and (C+B);
 - .2 the concentration of ingredient B is the same in both mixtures;
 - .3 the concentration of ingredient A in mixture (A+B) equals the concentration of ingredient C in mixture (C+B); and
 - .4 data on skin corrosion for ingredients A and C are available and substantially equivalent, i.e. they are the same skin corrosion packing group and do not affect the skin corrosion potential of B.if mixture (A+B) or (C+B) is already classified based on test data, then the other mixture may be assigned to the same packing group.

2.8.4.3 Calculation method based on the classification of the substances

2.8.4.3.1 Where a mixture has not been tested to determine its skin corrosion potential, nor is sufficient data available on similar mixtures, the corrosive properties of the substances in the mixture shall be considered to classify and assign a packing group.

Applying the calculation method is only allowed if there are no synergistic effects that make the mixture more corrosive than the sum of its substances. This restriction applies only if packing group II or III would be assigned to the mixture.

- 2.8.4.3.2 When using the calculation method, all class 8 ingredients present at a concentration of $\geq 1\%$ shall be taken into account, or $< 1\%$ if these ingredients are still relevant for classifying the mixture to be corrosive to skin.
- 2.8.4.3.3 To determine whether a mixture containing corrosive substances shall be considered a corrosive mixture and to assign a packing group, the calculation method in the flow chart in figure 2.8.4.3 shall be applied.
- 2.8.4.3.4 When a specific concentration limit (SCL) is assigned to a substance following its entry in the Dangerous Goods List or in a special provision, this limit shall be used instead of the generic concentration limits (GCL). This appears where 1% is used in the first step for the assessment of the packing group I substances, and where 5% is used for the other steps respectively in figure 2.8.4.3.
- 2.8.4.3.5 For this purpose, the summation formula for each step of the calculation method shall be adapted. This means that, where applicable, the generic concentration limit shall be substituted by the specific concentration limit assigned to the substance(s) (SCL_i), and the adapted formula is a weighted average of the different concentration limits assigned to the different substances in the mixture:

$$\frac{PGx_1}{GCL} + \frac{PGx_2}{SCL_2} + \dots + \frac{PGx_i}{SCL_i} \geq 1$$

Where:

PGx_i = concentration of substance 1, 2 ...i in the mixture, assigned to packing group x (I, II or III)

GCL = generic concentration limit

SCL_i = specific concentration limit assigned to substance i

The criterion for a packing group is fulfilled when the result of the calculation is ≥ 1 . The generic concentration limits to be used for the evaluation in each step of the calculation method are those found in figure 2.8.4.3.

Examples for the application of the above formula can be found in the note below.

Note: Examples for the application of the above formula

Example 1: A mixture contains one corrosive substance in a concentration of 5% assigned to packing group I without a specific concentration limit:

Calculation for packing group I: $\frac{5}{5(GCL)} = 1 \rightarrow$ assign to class 8, packing group I.

Example 2: A mixture contains three substances corrosive to skin; two of them (A and B) have specific concentration limits; for the third one (C) the generic concentration limits applies. The rest of the mixture needs not to be taken into consideration.

| Substance X in the mixture and its packing group assignment within class 8 | Concentration (conc) in the mixture in % | Specific concentration limit (SCL) for packing group I | Specific concentration limit (SCL) for packing group II | Specific concentration limit (SCL) for packing group III |
|--|--|--|---|--|
| A, assigned to packing group I | 3 | 30% | none | none |
| B, assigned to packing group I | 2 | 20% | 10% | none |
| C, assigned to packing group III | 10 | none | none | none |

Calculation for packing group I: $\frac{3 (conc A)}{30 (SCL PG I)} + \frac{2 (conc B)}{20 (SCL PG I)} = 0,2 < 1$

The criterion for packing group I is not fulfilled.

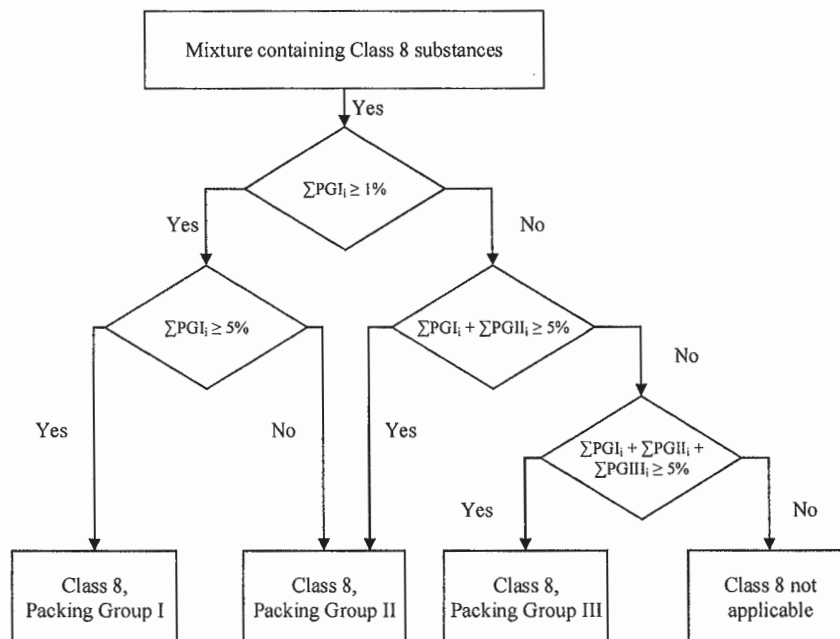
Calculation for packing group II: $\frac{3 (conc A)}{5 (GCL PG II)} + \frac{2 (conc B)}{10 (SCL PG II)} = 0,8 < 1$

The criterion for packing group II is not fulfilled.

Calculation for packing group III: $\frac{3 (conc A)}{5 (GCL PG III)} + \frac{2 (conc B)}{5 (GCL PG III)} + \frac{10 (conc C)}{5 GCL PG III} = 3 \geq 1$

The criterion for packing group III is fulfilled, the mixture shall be assigned to class 8, packing group III.

Figure 2.8.4.3: Calculation method



2.8.5 Substances not accepted for transport

Chemically unstable substances of class 8 shall not be accepted for transport unless the necessary precautions have been taken to prevent the possibility of a dangerous decomposition or polymerization under normal conditions of transport. For the precautions necessary to prevent polymerization, see special provision 386 of chapter 3.3. To this end particular care shall be taken to ensure that receptacles and tanks do not contain any substances liable to promote these reactions.

"

Chapter 2.9

Miscellaneous dangerous substances and articles (class 9) and environmentally hazardous substances

2.9.2 Assignment to class 9

2.9.2.2 Under the heading "Lithium batteries", add the following new entry:

"3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT".

Before the heading "Other substances or articles presenting a danger during transport, but not meeting the definitions of another class", insert the following new sub-division:

"Ammonium nitrate based fertilizers

2071 AMMONIUM NITRATE BASED FERTILIZER

Solid ammonium nitrate based fertilizers shall be classified in accordance with the procedure as set out in the Manual of Tests and Criteria, part III, section 39."

Under the heading "Other substances or articles presenting a danger during transport, but not meeting the definitions of another class", delete entry "2071 AMMONIUM NITRATE BASED FERTILIZER" and add the following new entry at the end of the list:

"3548 ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS N.O.S."

2.9.3 Environmentally hazardous substances (aquatic environment)

2.9.3.4.6.5 *Classification of mixtures with ingredients without any useable information*

2.9.3.4.6.5.1 At the end of the paragraph, delete the words "with the additional statement that: "x percent of the mixture consists of ingredients(s) of unknown hazards to the aquatic environment"".

2.9.4 Lithium batteries

Add the following new sub-paragraphs .6 and .7:

".6 Lithium batteries, containing both primary lithium metal cells and rechargeable lithium ion cells, that are not designed to be externally charged (see special provision 387 of chapter 3.3) shall meet the following conditions:

- .1 the rechargeable lithium ion cells can only be charged from the primary lithium metal cells;
- .2 overcharge of the rechargeable lithium ion cells is precluded by design;

- .3 the battery has been tested as a lithium primary battery; and
- .4 component cells of the battery shall be of a type proved to meet the respective testing requirements of the Manual of Tests and Criteria, part III, subsection 38.3.
- .7 Manufacturers and subsequent distributors of cells or batteries shall make available the test summary as specified in the Manual of Tests and Criteria, part III, subsection 38.3, paragraph 38.3.5."

PART 3
DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND EXCEPTIONS

Chapter 3.1
General

3.1.1 Scope and general provisions

- 3.1.1.2 At the end of the last sentence, replace "risks" with "hazards".

3.1.2 Proper shipping names

- 3.1.2.2 In the paragraph, amend the first sentence to read as follows:

"When a combination of several distinct proper shipping names are listed under a single UN number, and these are separated by "and" or "or" in lower case or are punctuated by commas, only the most appropriate shall be shown in the transport document and package marks.",

and delete the second sentence.

- 3.1.2.6 Add a new sub-paragraph .2 as follows:

".2 Unless it is already included in capital letters in the name indicated in the Dangerous Goods List, the words "TEMPERATURE CONTROLLED" shall be added as part of the proper shipping name.",

and renumber the existing sub-paragraph .2 as .3.

3.1.2.8 Generic or "not otherwise specified" (N.O.S.) entries

- 3.1.2.8.1.2 Amend the first sentence to read as follows:

"When a mixture of dangerous goods or articles containing dangerous goods are described by one of the "N.O.S." or "generic" entries to which special provision 274 has been allocated in the Dangerous Goods List, not more than the two constituents which most predominantly contribute to the hazard or hazards of the mixture or of the articles need to be shown, excluding controlled substances when their disclosure is prohibited by national law or international convention.",

and in the second sentence, replace "risk" with "hazard" twice.

- 3.1.2.8.1.3 Add the following new example at the end of the paragraph:

"UN 3540 ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S. (pyrrolidine)".

3.1.3 Mixtures or solutions

3.1.3.2.3 Replace "risk(s)" with "hazard(s)".

3.1.3.4 Replace "subsidiary risk(s)" with "subsidiary hazard(s)".

3.1.4 Segregation groups

3.1.4.1 Amend the paragraph to read as follows:

"3.1.4.1 For the purpose of segregation, dangerous goods having certain similar chemical properties have been grouped together in segregation groups, see 7.2.5."

3.1.4.4 Amend the headings to read as follows:

- 1 Acids (SGG1 or SGG1a)
- 2 Ammonium compounds (SGG2)
- 3 Bromates (SGG3)
- 4 Chlorates (SGG4)
- 5 Chlorites (SGG5)
- 6 Cyanides (SGG6)
- 7 Heavy metals and their salts (including their organometallic compounds) (SGG7)
- 8 Hypochlorites (SGG8)
- 9 Lead and its compounds (SGG9)
- 10 Liquid halogenated hydrocarbons (SGG10)
- 11 Mercury and mercury compounds (SGG11)
- 12 Nitrites and their mixtures (SGG12)
- 13 Perchlorates (SGG13)
- 14 Permanganates (SGG14)
- 15 Powdered metals (SGG15)
- 16 Peroxides (SGG16)
- 17 Azides (SGG17)
- 18 Alkalis (SGG18)

3.1.4.4 Under "3 Bromates", delete the entry "3213 Ammonium bromate". Under "7 Heavy metals and their salts (including their organometallic compounds)", delete the entries "1366 Diethylzinc" and "1370 Dimethylzinc".

Chapter 3.2 Dangerous Goods List

3.2.1 Structure of the Dangerous Goods List

In the description of column 4, replace "subsidiary risk(s)" with "subsidiary hazard(s)" twice.

In the description of column 15, add "Revised" before the word "Emergency".

In the description of column 16b, insert "the segregation group codes as specified in 7.2.5.2 and" after "contains".

Dangerous Goods List

In the Dangerous Goods List, in the heading of column 4, replace "risk" with "hazard", and amend the following entries:

| | |
|------|---|
| 0004 | in column 16b, insert "SGG2" |
| 0005 | in column 16a, amend "Category 05" to "Category 03" |
| 0006 | in column 16a, amend "Category 04" to "Category 03" |
| 0007 | in column 16a, amend "Category 05" to "Category 03" |
| 0033 | in column 16a, amend "Category 05" to "Category 03" |
| 0034 | in column 16a, amend "Category 04" to "Category 03" |
| 0035 | in column 16a, amend "Category 04" to "Category 03" |
| 0037 | in column 16a, amend "Category 05" to "Category 03" |
| 0038 | in column 16a, amend "Category 04" to "Category 03" |
| 0042 | in column 16a, amend "Category 04" to "Category 03" |
| 0043 | in column 16a, amend "Category 04" to "Category 03" |
| 0048 | in column 16a, amend "Category 04" to "Category 03" |
| 0056 | in column 16a, amend "Category 04" to "Category 03" |
| 0059 | in column 16a, amend "Category 04" to "Category 03" |
| 0060 | in column 16a, amend "Category 04" to "Category 03" |
| 0065 | in column 16a, amend "Category 04" to "Category 03" |
| 0099 | in column 16a, amend "Category 04" to "Category 03" |
| 0102 | in column 16a, amend "Category 04" to "Category 03" |
| 0124 | in column 16a, amend "Category 04" to "Category 03" and insert "SW30" |
| 0129 | in column 16b, insert "SGG7", "SGG9" and "SGG17" |
| 0130 | in column 16b, insert "SGG7" and "SGG9" |
| 0135 | in column 16b, insert "SGG7" and "SGG11" |
| 0136 | in column 16a, amend "Category 05" to "Category 03" |
| 0137 | in column 16a, amend "Category 04" to "Category 03" |
| 0138 | in column 16a, amend "Category 04" to "Category 03" |
| 0167 | in column 16a, amend "Category 05" to "Category 03" |
| 0168 | in column 16a, amend "Category 04" to "Category 03" |
| 0169 | in column 16a, amend "Category 04" to "Category 03" |
| 0180 | in column 16a, amend "Category 05" to "Category 03" |
| 0181 | in column 16a, amend "Category 04" to "Category 03" |
| 0182 | in column 16a, amend "Category 04" to "Category 03" |
| 0183 | in column 16a, amend "Category 04" to "Category 03" |
| 0186 | in column 16a, amend "Category 04" to "Category 03" |
| 0204 | in column 16a, amend "Category 05" to "Category 03" |
| 0221 | in column 16a, amend "Category 04" to "Category 03" |
| 0222 | in column 16b, insert "SGG2" |
| 0224 | in column 16b, insert "SGG17" |
| 0242 | in column 16a, amend "Category 04" to "Category 03" |
| 0271 | in column 16a, amend "Category 04" to "Category 03" |
| 0272 | in column 16a, amend "Category 04" to "Category 03" |
| 0275 | in column 16a, amend "Category 04" to "Category 03" |
| 0277 | in column 16a, amend "Category 04" to "Category 03" |
| 0279 | in column 16a, amend "Category 04" to "Category 03" |
| 0280 | in column 16a, amend "Category 04" to "Category 03" |
| 0283 | in column 16a, amend "Category 04" to "Category 03" |
| 0284 | in column 16a, amend "Category 04" to "Category 03" |
| 0285 | in column 16a, amend "Category 04" to "Category 03" |
| 0286 | in column 16a, amend "Category 04" to "Category 03" |

| | |
|------|---|
| 0287 | in column 16a, amend "Category 04" to "Category 03" |
| 0290 | in column 16a, amend "Category 04" to "Category 03" |
| 0291 | in column 16a, amend "Category 05" to "Category 03" |
| 0292 | in column 16a, amend "Category 05" to "Category 03" |
| 0293 | in column 16a, amend "Category 05" to "Category 03" |
| 0294 | in column 16a, amend "Category 05" to "Category 03" |
| 0295 | in column 16a, amend "Category 05" to "Category 03" |
| 0296 | in column 16a, amend "Category 05" to "Category 03" |
| 0321 | in column 16a, amend "Category 04" to "Category 03" |
| 0324 | in column 16a, amend "Category 05" to "Category 03" |
| 0326 | in column 16a, amend "Category 04" to "Category 03" |
| 0327 | in column 16a, amend "Category 04" to "Category 03" |
| 0328 | in column 16a, amend "Category 04" to "Category 03" |
| 0329 | in column 16a, amend "Category 04" to "Category 03" |
| 0330 | in column 16a, amend "Category 05" to "Category 03" |
| 0346 | in column 16a, amend "Category 04" to "Category 03" |
| 0348 | in column 16a, amend "Category 05" to "Category 03" |
| 0349 | in column 6, insert "347" |
| 0367 | in column 6, insert "347" |
| 0369 | in column 16a, amend "Category 05" to "Category 03" |
| 0371 | in column 16a, amend "Category 05" to "Category 03" |
| 0374 | in column 16a, amend "Category 04" to "Category 03" |
| 0375 | in column 16a, amend "Category 04" to "Category 03" |
| 0381 | in column 16a, amend "Category 04" to "Category 03" |
| 0384 | in column 6, insert "347" |
| 0402 | in column 16b, insert "SGG2" |
| 0408 | in column 16a, amend "Category 04" to "Category 03" |
| 0409 | in column 16a, amend "Category 04" to "Category 03" |
| 0413 | in column 16a, amend "Category 04" to "Category 03" |
| 0414 | in column 16a, amend "Category 04" to "Category 03" |
| 0415 | in column 16a, amend "Category 04" to "Category 03" |
| 0417 | in column 16a, amend "Category 04" to "Category 03" |
| 0426 | in column 16a, amend "Category 05" to "Category 03" |
| 0427 | in column 16a, amend "Category 05" to "Category 03" |
| 0436 | in column 16a, amend "Category 04" to "Category 03" |
| 0437 | in column 16a, amend "Category 04" to "Category 03" |
| 0439 | in column 16a, amend "Category 04" to "Category 03" |
| 0442 | in column 16a, amend "Category 04" to "Category 03" |
| 0443 | in column 16a, amend "Category 04" to "Category 03" |
| 0447 | in column 16a, amend "Category 04" to "Category 03" |
| 0451 | in column 16a, amend "Category 04" to "Category 03" |
| 0457 | in column 16a, amend "Category 04" to "Category 03" |
| 0458 | in column 16a, amend "Category 04" to "Category 03" |
| 0462 | in column 16a, amend "Category 04" to "Category 03" |
| 0463 | in column 16a, amend "Category 04" to "Category 03" |
| 0464 | in column 16a, amend "Category 04" to "Category 03" |
| 0465 | in column 16a, amend "Category 05" to "Category 03" |
| 0466 | in column 16a, amend "Category 04" to "Category 03" |
| 0467 | in column 16a, amend "Category 04" to "Category 03" |
| 0468 | in column 16a, amend "Category 04" to "Category 03" |
| 0469 | in column 16a, amend "Category 05" to "Category 03" |
| 0470 | in column 16a, amend "Category 04" to "Category 03" |
| 0472 | in column 16a, amend "Category 05" to "Category 03" |

| | |
|----------------|---|
| 0481 | in column 6, insert "347" |
| 0494 | in column 16a, insert "SW30" |
| 0502 | in column 16a, amend "Category 04" to "Category 03" |
| 1005 | in column 16b, insert "SGG18" |
| 1011 | in column 6, insert "392" |
| 1016 | in column 6, insert "974" |
| 1032 | in column 16b, insert "SG35" |
| 1036 | in column 16b, insert "SG35" |
| 1046 | in column 6, insert "974" |
| 1049 | in column 6, insert "392" and "974" |
| 1052 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1061 | in column 16b, insert "SG35" |
| 1075 | in column 6, insert "392" |
| 1083 | in column 16b, insert "SG35" |
| 1099 | in column 16b, insert "SGG10" |
| 1100 | in column 16b, insert "SGG10" |
| 1106 PG II | in column 16b, insert "SG35" |
| 1106 PG III | in column 16b, insert "SG35" |
| 1107 | in column 16b, insert "SGG10" |
| 1125 | in column 16b, insert "SG35" |
| 1126 | in column 16b, insert "SGG10" |
| 1127 | in column 16b, insert "SGG10" |
| 1134 | in column 16b, insert "SGG10" |
| 1150 | in column 16b, insert "SGG10" |
| 1152 | in column 16b, insert "SGG10" |
| 1154 | in column 16b, insert "SG35" |
| 1158 | in column 16b, insert "SG35" |
| 1160 | in column 16b, insert "SGG18" |
| 1163 | in column 16b, insert "SGG18" |
| 1182 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1183 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1184 | in column 16b, insert "SGG10" |
| 1214 | in column 16b, insert "SG35" |
| 1221 | in column 16b, insert "SG35" |
| 1235 | in column 16b, insert "SGG18" |
| 1238 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1242 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1244 | in column 16b, insert "SGG18" |
| 1250 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1277 | in column 16b, insert "SG35" |
| 1278 | in column 16b, insert "SGG10" |
| 1279 | in column 16b, insert "SGG10" |
| 1295 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1296 | in column 16b, insert "SG35" |
| 1297 PG I | in column 16b, insert "SG35" |
| 1297 PG II | in column 16b, insert "SG35" |
| 1297 PG III | in column 16b, insert "SG35" |
| 1298 | in column 16b, insert "SGG1", "SG36" and "SG49" |

| | |
|----------------|---|
| 1303 | in column 16b, insert "SGG10" |
| 1305 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1309 PG II | in column 16b, insert "SGG15" |
| 1309 PG III | in column 16b, insert "SGG15" |
| 1310 | in column 16b, insert "SGG2" |
| 1325 PG II | in column 16b, insert "SG72" |
| 1325 PG III | in column 16b, insert "SG72" |
| 1326 | in column 16b, insert "SGG15" |
| 1327 | in column 6, insert "973" |
| 1347 | in column 16b, insert "SGG7" |
| 1352 | in column 16b, insert "SGG15" |
| 1358 | in column 16b, insert "SGG15" |
| 1363 | in column 6, insert "973" |
| 1364 | in column 6, insert "973" |
| 1365 | in column 6, insert "973" |
| 1382 | in column 16b, insert "SGG18" |
| 1383 | in column 16b, insert "SGG15" |
| 1385 | in column 16b, insert "SGG18" |
| 1386 | in column 6, insert "973" |
| (both entries) | |
| 1389 | in column 16b, insert "SGG7" and "SGG11" |
| 1392 | in column 16b, insert "SGG7" and "SGG11" |
| 1396 PG II | in column 16b, insert "SGG15" |
| 1396 PG III | in column 16b, insert "SGG15" |
| 1398 | in column 16b, insert "SGG15" |
| 1418 PG I | in column 16b, insert "SGG15" |
| 1418 PG II | in column 16b, insert "SGG15" |
| 1418 PG III | in column 16b, insert "SGG15" |
| 1435 | in column 16b, insert "SGG7" and "SGG15" |
| 1436 PG I | in column 16b, insert "SGG7" and "SGG15" |
| 1436 PG II | in column 16b, insert "SGG7" and "SGG15" |
| 1436 PG III | in column 16b, insert "SGG7" and "SGG15" |
| 1439 | in column 16b, insert "SGG2" |
| 1442 | in column 16b, insert "SGG2" and "SGG13" |
| 1444 | in column 16b, insert "SGG2" |
| 1445 | in column 16b, insert "SGG4" |
| 1447 | in column 16b, insert "SGG13" |
| 1448 | in column 16b, insert "SGG14" |
| 1449 | in column 16b, insert "SGG16" |
| 1450 | in column 16b, insert "SGG3" |
| 1452 | in column 16b, insert "SGG4" |

| | |
|----------------|--|
| 1453 | in column 16b, insert "SGG5" |
| 1455 | in column 16b, insert "SGG13" |
| 1456 | in column 16b, insert "SGG14" |
| 1457 | in column 16b, insert "SGG16" |
| 1458 PG II | in column 16b, insert "SGG4" |
| 1458 PG III | in column 16b, insert "SGG4" |
| 1459 PG II | in column 16b, insert "SGG4" |
| 1459 PG III | in column 16b, insert "SGG4" |
| 1461 | in column 16b, insert "SGG4" |
| 1462 | in column 16b, insert "SGG5" |
| 1469 | in column 16b, insert "SGG7", "SGG9" |
| 1470 | in column 16b, insert "SGG7", "SGG9" and "SGG13" |
| 1471 PG II | in column 16b, insert "SGG8" |
| 1471 PG III | in column 16b, insert "SGG8" |
| 1472 | in column 16b, insert "SGG16" |
| 1473 | in column 16b, insert "SGG3" |
| 1475 | in column 16b, insert "SGG13" |
| 1476 | in column 16b, insert "SGG16" |
| 1481 PG II | in column 16b, insert "SGG13" |
| 1481 PG III | in column 16b, insert "SGG13" |
| 1482 PG II | in column 16b, insert "SGG14" |
| 1482 PG III | in column 16b, insert "SGG14" |
| 1483 PG II | in column 16b, insert "SGG16" |
| 1483 PG III | in column 16b, insert "SGG16" |
| 1484 | in column 16b, insert "SGG3" |
| 1485 | in column 16b, insert "SGG4" |
| 1487 | in column 16b, insert "SGG12" |
| 1488 | in column 16b, insert "SGG12" |
| 1489 | in column 16b, insert "SGG13" |
| 1490 | in column 16b, insert "SGG14" |
| 1491 | in column 16b, insert "SGG16" |
| 1493 | in column 16b, insert "SGG7" |
| 1494 | in column 16b, insert "SGG3" |
| 1495 | in column 16b, insert "SGG4" |
| 1496 | in column 16b, insert "SGG5" |
| 1500 | in column 16b, insert "SGG12" |
| 1502 | in column 16b, insert "SGG13" |
| 1503 | in column 16b, insert "SGG14" |
| 1504 | in column 16b, insert "SGG16" |
| 1506 | in column 16b, insert "SGG4" |
| 1508 | in column 16b, insert "SGG13" |

| | |
|----------------|--|
| 1509 | in column 16b, insert "SGG16" |
| 1512 | in column 16b, insert "SGG2", "SGG7" and "SGG12" |
| 1513 | in column 16b, insert "SGG4" and "SGG7" |
| 1514 | in column 16b, insert "SGG7" |
| 1515 | in column 16b, insert "SGG7" and "SGG14" |
| 1516 | in column 16b, insert "SGG7" and "SGG16" |
| 1541 | in column 16b, insert "SGG6" |
| 1546 | in column 16b, insert "SGG2" |
| 1565 | in column 16b, insert "SGG6" |
| 1571 | in column 16b, insert "SGG17" |
| 1572 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1575 | in column 16b, insert "SGG6" |
| 1587 | in column 16b, insert "SGG6" and "SGG7" |
| 1588 PG I | in column 16b, insert "SGG6" |
| 1588 PG II | |
| 1588 PG III | in column 16b, insert "SGG6" |
| 1591 | in column 16b, insert "SGG10" |
| 1593 | in column 16b, insert "SGG10" |
| 1595 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1604 | in column 16b, insert "SGG18" |
| 1605 | in column 16b, insert "SGG10" |
| 1616 | in column 16b, insert "SGG7" and "SGG9" |
| 1617 | in column 16b, insert "SGG7" and "SGG9" |
| 1618 | in column 16b, insert "SGG7" and "SGG9" |
| 1620 | in column 16b, insert "SGG6", "SGG7" and "SGG9" |
| 1623 | in column 16b, insert "SGG7" and "SGG11" |
| 1624 | in column 16b, insert "SGG7" and "SGG11" |
| 1625 | in column 16b, insert "SGG7" and "SGG11" |
| 1626 | in column 16b, insert "SGG6", "SGG7" and "SGG11" |
| 1627 | in column 16b, insert "SGG7" and "SGG11" |
| 1629 | in column 16b, insert "SGG7" and "SGG11" |
| 1630 | in column 16b, insert "SGG2", "SGG7" and "SGG11" |
| 1631 | in column 16b, insert "SGG7" and "SGG11" |
| 1634 | in column 16b, insert "SGG7" and "SGG11" |
| 1636 | in column 16b, insert "SGG6", "SGG7" and "SGG11" |
| 1637 | in column 16b, insert "SGG7" and "SGG11" |
| 1638 | in column 16b, insert "SGG7" and "SGG11" |
| 1639 | in column 16b, insert "SGG7" and "SGG11" |
| 1640 | in column 16b, insert "SGG7" and "SGG11" |
| 1641 | in column 16b, insert "SGG7" and "SGG11" |
| 1642 | in column 16b, insert "SGG6", "SGG7" and "SGG11" |
| 1643 | in column 16b, insert "SGG7" and "SGG11" |
| 1644 | in column 16b, insert "SGG7" and "SGG11" |
| 1645 | in column 16b, insert "SGG7" and "SGG11" |
| 1646 | in column 16b, insert "SGG7" and "SGG11" |
| 1647 | in column 16b, insert "SGG10" |
| 1649 | in column 16b, insert "SGG7" and "SGG9" |
| 1653 | in column 16b, insert "SGG6" and "SGG7" |
| 1669 | in column 16b, insert "SGG10" |
| 1674 | in column 16b, insert "SGG7" |

| | |
|----------------|--|
| 1679 | in column 16b, insert "SGG6" |
| 1680 | in column 16b, insert "SGG6" |
| 1683 | in column 16b, insert "SGG7" |
| 1684 | in column 16b, insert "SGG6" and "SGG7" |
| 1687 | in column 16b, insert "SGG17" |
| 1689 | in column 16b, insert "SGG6" |
| 1694 | in column 16b, insert "SGG6" |
| 1701 | in column 16b, insert "SGG10" |
| 1702 | in column 16b, insert "SGG10" |
| 1710 | in column 16b, insert "SGG10" |
| 1712 | in column 16b, insert "SGG7" |
| 1713 | in column 16b, insert "SGG6" and "SGG7" |
| 1714 | in column 16b, insert "SGG7" |
| 1715 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1716 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1717 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1718 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1719 PGII | in column 16b, insert "SGG18" |
| 1719 PGIII | in column 16b, insert "SGG18" |
| 1722 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1723 | in column 16b, insert "SGG1", "SGG10", "SG36" and "SG49" |
| 1724 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1725 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1726 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1727 | in column 16b, insert "SGG1", "SGG2", "SG36" and "SG49" |
| 1728 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1729 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1730 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1731 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1731 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1732 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1733 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1736 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1737 | in column 16b, insert "SGG1", "SGG10", "SG36" and "SG49" |
| 1738 | in column 16b, insert "SGG1", "SGG10", "SG36" and "SG49" |
| 1739 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1740 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1740 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1742 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1743 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1744 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1745 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1746 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1747 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1748 | in column 16b, insert "SGG8" |
| 1750 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1751 | in column 16b, insert "SGG1", "SG36" and "SG49" |

| | |
|----------------|--|
| 1752 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1753 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1754 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1755 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1755 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1756 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1757 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1757 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1758 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1761 PG II | in column 16b, insert "SG35" |
| 1761 PG III | in column 16b, insert "SG35" |
| 1762 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1763 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1764 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1765 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1766 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1767 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1768 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1769 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1770 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1771 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1773 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1775 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1776 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1777 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1778 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1779 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1780 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1781 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1782 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1783 PG II | in column 16b, insert "SG35" |
| 1783 PG III | in column 16b, insert "SG35" |
| 1784 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1786 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1787 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1787 PG III | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1788 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1788 PG III | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1789 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |

| | |
|----------------|---|
| 1789 PG III | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1790 PG I | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1790 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1791 PG II | in column 6, insert "274" and "900"; in column 16b, insert "SGG8" |
| 1791 PG III | in column 6, insert "274" and "900"; in column 16b, insert "SGG8" |
| 1792 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1793 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1794 | in column 16b, insert "SGG1", "SGG7", "SGG9", "SG36" and "SG49" |
| 1796 PG I | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1796 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1798 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1799 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1800 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1801 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1802 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1803 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1804 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1805 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1806 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1807 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1808 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1809 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1810 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1811 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1813 | in column 16b, insert "SGG18" |
| 1814 | in column 16b, insert "SGG18" |
| 1814 PG II | |
| 1814 PG III | in column 16b, insert "SGG18" |
| 1815 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1816 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1817 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1818 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1819 PG II | in column 16b, insert "SGG18" |
| 1819 PG III | in column 16b, insert "SGG18" |
| 1823 | in column 16b, insert "SGG18" |
| 1824 PG II | in column 16b, insert "SGG18" |
| 1824 PG III | in column 16b, insert "SGG18" |
| 1825 | in column 16b, insert "SGG18" |
| 1826 PG I | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1826 PG II | in column 16b, insert "SGG1a", "SG36" and "SG49" |

| | |
|----------------|---|
| 1827 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1828 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1829 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1830 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1831 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1832 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1833 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1834 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1835 PG II | in column 16b, insert "SGG2" and "SGG18" |
| 1835 PG III | in column 16b, insert "SGG2" and "SGG18" |
| 1836 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1837 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1838 | in column 16b, insert "SGG1", "SGG7", "SG36" and "SG49" |
| 1839 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1840 | in column 16b, insert "SGG1", "SGG7", "SG36" and "SG49" |
| 1843 | in column 16b, insert "SGG2" |
| 1846 | in column 16b, insert "SGG10" |
| 1847 | in column 16b, insert "SGG18" |
| 1848 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1849 | in column 16b, insert "SGG18" |
| 1854 | in column 16b, insert "SGG15" |
| 1856 | in column 6, insert "973" |
| 1872 | in column 16b, insert "SGG7" and "SGG9" |
| 1873 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1887 | in column 16b, insert "SGG10" |
| 1888 | in column 16b, insert "SGG10" |
| 1889 | in column 16b, insert "SGG6" |
| 1891 | in column 16b, insert "SGG10" |
| 1894 | in column 16b, insert "SGG7" and "SGG11" |
| 1895 | in column 16b, insert "SGG7" and "SGG11" |
| 1897 | in column 16b, insert "SGG10" |
| 1898 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1902 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1905 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1906 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 1907 | in column 16b, insert "SGG18" |
| 1908 PGII | in column 6, insert "274" and "352"; in column 16b, insert "SGG5" |
| 1908 PGIII | in column 6, insert "274" and "352"; in column 16b, insert "SGG5" |
| 1922 | in column 16b, insert "SGG18" |
| 1931 | in column 16b, insert "SGG7" |
| 1935 PG I | in column 16b, insert "SGG6" |
| 1935 PG II | in column 16b, insert "SGG6" |
| 1935 PG III | in column 16b, insert "SGG6" |
| 1938 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |

| | |
|---------------------------------|--|
| 1938 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1939 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1940 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 1942 | in column 16b, insert "SGG2" |
| 1945 | in column 6, add "293" |
| 1954 | in column 6, insert "392" |
| 1965 | in column 6, insert "392" |
| 1969 | in column 6, insert "392" |
| 1971 | in column 6, insert "392" and "974" |
| 1978 | in column 6, insert "392" |
| 1991 | in column 16b, insert "SGG10" |
| 2008 PG I | in column 16b, insert "SGG15" |
| 2008 PG II | in column 16b, insert "SGG15" |
| 2008 PG III | in column 16b, insert "SGG15" |
| 2009 | in column 16b, insert "SGG15" |
| 2014 | in column 16b, insert "SGG16" |
| 2015 | in column 16b, insert "SGG16" |
| 2024 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 2024 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 2024 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 2025 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 2025 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 2025 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 2026 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 2026 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 2026 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 2029 | in column 16b, insert "SGG18" |
| 2030 PG I | in column 16b, insert "SGG18" |
| 2030 PG II | in column 16b, insert "SGG18" |
| 2030 PG III | in column 16b, insert "SGG18" |
| 2031 PG I | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2031 PG II (both entries) | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2032 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2033 | in column 16b, insert "SGG18" |
| 2051 | in column 16b, insert "SG35" |

| | |
|----------------|---|
| 2067 | in column 6, delete "186"; in column 16b, insert "SGG2" |
| 2071 | in column 6, delete "186"; in column 16b, insert "SGG2" |
| 2073 | in column 16b, insert "SGG2" and "SGG18" |
| 2079 | in column 16b, insert "SGG18" |
| 2205 | in column 16b, insert "SGG6" |
| 2208 | in column 16b, insert "SGG8" |
| 2214 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2215 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| (both entries) | |
| 2216 | in column 6, insert "973" |
| 2217 | in column 6, remove "117" and insert "973" |
| 2218 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2225 | in column 16b, insert "SGG1" |
| 2226 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2234 | in column 16b, insert "SGG10" |
| 2238 | in column 16b, insert "SGG10" |
| 2240 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2248 | in column 16b, insert "SG35" |
| 2258 | in column 16b, insert "SG35" |
| 2259 | in column 16b, insert "SGG18" |
| 2260 | in column 16b, insert "SG35" |
| 2262 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2264 | in column 16b, insert "SG35" |
| 2266 | in column 16b, insert "SG35" |
| 2267 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2269 | in column 16b, insert "SG35" |
| 2270 | in column 16b, insert "SGG18" |
| 2276 | in column 16b, insert "SG35" |
| 2279 | in column 16b, insert "SGG10" |
| 2280 | in column 16b, insert "SG35" |
| (both entries) | |
| 2289 | in column 16b, insert "SG35" |
| 2291 | in column 16b, insert "SGG7" and "SGG9" |
| 2305 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2308 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2316 | in column 16b, insert "SGG6" |
| 2317 | in column 16b, insert "SGG6" |
| 2318 | in column 16b, insert "SGG18" |
| 2320 | in column 16b, insert "SGG18" |
| 2321 | in column 16b, insert "SGG10" |
| 2322 | in column 16b, insert "SGG10" |
| 2326 | in column 16b, insert "SG35" |
| 2327 | in column 16b, insert "SG35" |
| 2331 | in column 16b, insert "SGG1", "SGG7", "SG36" and "SG49" |
| 2334 | in column 16b, insert "SG35" |
| 2339 | in column 16b, insert "SGG10" |
| 2341 | in column 16b, insert "SGG10" |
| 2342 | in column 16b, insert "SGG10" |
| 2343 | in column 16b, insert "SGG10" |
| 2344 | in column 16b, insert "SGG10" |
| PG II | |
| 2344 | in column 16b, insert "SGG10" |
| PG III | |

| | |
|----------------|---|
| 2353 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2356 | in column 16b, insert "SGG10" |
| 2357 | in column 16b, insert "SG35" |
| 2359 | in column 16b, insert "SG35" |
| 2361 | in column 16b, insert "SG35" |
| 2362 | in column 16b, insert "SGG10" |
| 2379 | in column 16b, insert "SGG18" |
| 2382 | in column 16b, insert "SGG18" |
| 2383 | in column 16b, insert "SG35" |
| 2386 | in column 16b, insert "SGG18" |
| 2387 | in column 16b, insert "SGG10" |
| 2388 | in column 16b, insert "SGG10" |
| 2390 | in column 16b, insert "SGG10" |
| 2391 | in column 16b, insert "SGG10" |
| 2392 | in column 16b, insert "SGG10" |
| 2395 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2399 | in column 16b, insert "SGG18" |
| 2401 | in column 16b, insert "SGG18" |
| 2407 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2426 | in column 16b, insert "SGG2" |
| 2427 PG II | in column 16b, insert "SGG4" |
| 2427 PG III | in column 16b, insert "SGG4" |
| 2428 PG II | in column 16b, insert "SGG4" |
| 2428 PG III | in column 16b, insert "SGG4" |
| 2429 PG II | in column 16b, insert "SGG4" |
| 2429 PG III | in column 16b, insert "SGG4" |
| 2434 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2435 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2437 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2438 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2439 | in column 2, remove the hyphen to read "SODIUM HYDROGENDIFLUORIDE"; in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2440 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2441 | in column 16b, insert "SGG7" |
| 2442 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2443 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2444 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2456 | in column 16b, insert "SGG10" |
| 2466 | in column 16b, insert "SGG16" |
| 2469 | in column 16b, insert "SGG3" and "SGG7" |
| 2475 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2491 | in column 16b, insert "SGG18" |
| 2495 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2496 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2502 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2503 | in column 16b, insert "SGG1", "SG36" and "SG49" |

| | |
|----------------|---|
| 2504 | in column 16b, insert "SGG10" |
| 2505 | in column 16b, insert "SGG2" |
| 2506 | in column 16b, insert "SGG1", "SGG2", "SG36" and "SG49" |
| 2507 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2508 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2509 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2511 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2513 | in column 16b, insert "SGG1", "SG49" |
| 2515 | in column 16b, insert "SGG10" |
| 2526 | in column 16b, insert "SG35" |
| 2531 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2545 | in column 16b, insert "SGG15" |
| 2546 PG I | in column 16b, insert "SGG7" and "SGG15" |
| 2546 PG II | in column 16b, insert "SGG7" and "SGG15" |
| 2546 PG III | in column 16b, insert "SGG7" and "SGG15" |
| 2547 | in column 16b, insert "SGG16" |
| 2554 | in column 16b, insert "SGG10" |
| 2556 | in column 16a, add "SW1" and "H2" |
| 2564 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2564 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2565 | in column 16b, insert "SG35" |
| 2571 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2573 | in column 16b, insert "SGG4" |
| 2576 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2577 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2578 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2579 | in column 16b, insert "SGG18" |
| 2580 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2581 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2582 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2583 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2584 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2585 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2586 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2604 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2610 | in column 16b, insert "SG35" |
| 2619 | in column 16b, insert "SG35" |
| 2626 | in column 16b, insert "SGG1" and "SG36" |
| 2627 | in column 16b, insert "SGG12" |
| 2642 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2644 | in column 16b, insert "SGG10" |
| 2646 | in column 16b, insert "SGG10" |
| 2664 | in column 16b, insert "SGG10" |
| 2670 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2671 | in column 16b, insert "SGG18" |
| 2672 | in column 16b, insert "SGG18" |
| 2677 PG II | in column 16b, insert "SGG18" |

| | |
|----------------|--|
| 2677 PG III | in column 16b, insert "SGG18" |
| 2678 | in column 16b, insert "SGG18" |
| 2679 PG II | in column 16b, insert "SGG18" |
| 2679 PG III | in column 16b, insert "SGG18" |
| 2680 | in column 16b, insert "SGG18" |
| 2681 PG II | in column 16b, insert "SGG18" |
| 2681 PG III | in column 16b, insert "SGG18" |
| 2682 | in column 16b, insert "SGG18" |
| 2683 | in column 16b, insert "SGG2" and "SGG18" |
| 2684 | in column 16b, insert "SG35" |
| 2685 | in column 16b, insert "SG35" |
| 2686 | in column 16b, insert "SG35" |
| 2687 | in column 16b, insert "SGG2" |
| 2688 | in column 16b, insert "SGG10" |
| 2691 | in column 16b, insert "SGG1" and "SG49" |
| 2692 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2698 | in column 16b, insert "SGG1", "SG36" and "SG49"; in column 6, insert "973" |
| 2699 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2714 | in column 16b, insert "SGG7" |
| 2719 | in column 16b, insert "SGG3" |
| 2721 | in column 16b, insert "SGG4" |
| 2723 | in column 16b, insert "SGG4" |
| 2726 | in column 16b, insert "SGG12" |
| 2733 PG I | in column 16b, insert "SGG18" |
| 2733 PG II | in column 16b, insert "SGG18" |
| 2733 PG III | in column 16b, insert "SGG18" |
| 2734 PG I | in column 16b, insert "SGG18" |
| 2734 PG II | in column 16b, insert "SGG18" |
| 2735 PG I | in column 16b, insert "SGG18" |
| 2735 PG II | in column 16b, insert "SGG18" |
| 2735 PG III | in column 16b, insert "SGG18" |
| 2739 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2740 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2741 | in column 16b, insert "SGG8" |
| 2742 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2743 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2744 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2745 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2746 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2748 | in column 16b, insert "SGG1", "SG36" and "SG49" |

| | |
|----------------|---|
| 2751 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2777 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 2777 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 2777 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 2778 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 2778 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 2789 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2790 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2790 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2794 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2795 | in column 16b, insert "SGG18" |
| 2796 | in column 16b, insert "SGG1a", "SG36" and "SG49" |
| 2797 | in column 16b, insert "SGG18" |
| 2798 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2799 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2800 | in column 6, delete "29" |
| 2802 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2809 | in column 16b, insert "SGG7" and "SGG11" |
| 2815 | in column 16b, insert "SG35" |
| 2817 PG II | in column 16b, insert "SGG1", "SGG2", "SG36" and "SG49" |
| 2817 PG III | in column 16b, insert "SGG1", "SGG2", "SG36" and "SG49" |
| 2818 PG II | in column 16b, insert "SGG2" and "SGG18" |
| 2818 PG III | in column 16b, insert "SGG2" and "SGG18" |
| 2819 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2820 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2823 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2826 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2829 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2831 | in column 16b, insert "SGG10" |
| 2834 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2841 | in column 16b, insert "SG35" |
| 2850 | in column 17, at the end, add "1-dodecene is not marine pollutant." |
| 2851 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2854 | in column 16b, insert "SGG2" |
| 2855 | in column 16b, insert "SGG7" |
| 2859 | in column 16b, insert "SGG2" |
| 2861 | in column 16b, insert "SGG2" |
| 2863 | in column 16b, insert "SGG2" |
| 2865 | in column 16b, insert "SGG1", "SG35", "SG36" and "SG49" |
| 2869 PG II | in column 16b, insert "SGG1", "SGG7", "SG36" and "SG49" |

| | |
|----------------|--|
| 2869 PG III | in column 16b, insert "SGG1", "SGG7", "SG36" and "SG49" |
| 2872 PG II | in column 16b, insert "SGG10" |
| 2872 PG III | in column 16b, insert "SGG10" |
| 2878 | in column 16b, insert "SGG7" and "SGG15" |
| 2879 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2880 PG II | in column 16b, insert "SGG8" |
| 2880 PG III | in column 16b, insert "SGG8" |
| 2881 PG I | in column 16b, insert "SGG7" and "SGG15" |
| 2881 PG II | in column 16b, insert "SGG7" and "SGG15" |
| 2881 PG III | in column 16b, insert "SGG7" and "SGG15" |
| 2945 | in column 16b, insert "SG35" |
| 2949 | in column 16b, insert "SGG18" |
| 2950 | in column 16b, insert "SGG15" |
| 2967 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2977 | in column 16b, insert "SG17", "SG76" and "SG78" |
| 2978 | in column 16b, insert "SG17", "SG76" and "SG78" |
| 2985 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2986 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2987 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2988 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 2989 PG II | in column 16b, insert "SGG7" and "SGG9" |
| 2989 PG III | in column 16b, insert "SGG7" and "SGG9" |
| 3011 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 3011 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 3011 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 3012 PG I | in column 16b, insert "SGG7" and "SGG11" |
| 3012 PG II | in column 16b, insert "SGG7" and "SGG11" |
| 3012 PG III | in column 16b, insert "SGG7" and "SGG11" |
| 3028 | in column 16b, insert "SGG18" |
| 3055 | in column 16b, insert "SG35" |
| 3073 | in column 16b, insert "SGG18" |
| 3078 | in column 16b, insert "SGG15" |
| 3089 PG II | in column 16b, insert "SGG7" and "SGG15" |
| 3089 PG III | in column 16b, insert "SGG7" and "SGG15" |
| 3090 | in column 6, insert "387"; in column 8, insert "P911", "LP905" and "LP906" |
| 3091 | in column 6, insert "387"; in column 8, insert "P911", "LP905" and "LP906" |

| | |
|----------------|--|
| 3101 | in column 16b, insert "SG72" |
| 3102 | in column 16b, insert "SG72" |
| 3103 | in column 16b, insert "SG72" |
| 3104 | in column 16b, insert "SG72" |
| 3106 | in column 16b, insert "SG72" |
| 3108 | in column 16b, insert "SG72" |
| 3110 | in column 16b, insert "SG72" |
| 3111 | in column 16b, insert "SG72" |
| 3112 | in column 16b, insert "SG72" |
| 3113 | in column 16b, insert "SG72" |
| 3114 | in column 16b, insert "SG72" |
| 3115 | in column 16b, insert "SG72" |
| 3116 | in column 16b, insert "SG72" |
| 3117 | in column 16b, insert "SG72" |
| 3118 | in column 16b, insert "SG72" |
| 3119 | in column 16b, insert "SG72" |
| 3120 | in column 16b, insert "SG72" |
| 3149 | in column 16b, insert "SGG16" |
| 3166 | in column 6, delete "312", delete "380", delete "385" and insert "388" |
| 3170 PG II | in column 16b, insert "SGG15" |
| 3170 PG III | in column 16b, insert "SGG15" |
| 3171 | in column 6, delete "240" and insert "388" |
| 3174 | in column 16b, insert "SGG7" |
| 3181 PG II | in column 16b, insert "SGG7" |
| 3181 PG III | in column 16b, insert "SGG7" |
| 3189 PG II | in column 16b, insert "SGG7" and "SGG15" |
| 3189 PG III | in column 16b, insert "SGG7" and "SGG15" |
| 3211 PGII | in column 16b, insert "SGG13" |
| 3211 PGIII | in column 16b, insert "SGG13" |
| 3212 | in column 16b, insert "SGG8" |
| 3213 PG II | in column 16b, insert "SGG3" |
| 3213 PG III | in column 16b, insert "SGG3" |
| 3214 | in column 16b, insert "SGG14" |
| 3219 PG II | in column 16b, insert "SGG12" |
| 3219 PG III | in column 16b, insert "SGG12" |
| 3223 | in column 9, add "PP94 PP95" |
| 3224 | in column 9, add "PP94 PP95" |
| 3246 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3250 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3253 | in column 16b, insert "SGG18" |
| 3255 | in column 16b, insert "SGG8" |

| | |
|----------------|---|
| 3259 PG I | in column 16b, insert "SGG18" |
| 3259 PG II | in column 16b, insert "SGG18" |
| 3259 PG III | in column 16b, insert "SGG18" |
| 3260 PG I | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3260 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3260 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3261 PG I | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3261 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3261 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3262 PG I | in column 16b, insert "SGG18" |
| 3262 PG II | in column 16b, insert "SGG18" |
| 3262 PG III | in column 16b, insert "SGG18" |
| 3263 PG I | in column 16b, insert "SGG18" |
| 3263 PG II | in column 16b, insert "SGG18" |
| 3263 PG III | in column 16b, insert "SGG18" |
| 3264 PG I | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3264 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3264 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3265 PG I | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3265 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3265 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3266 PG I | in column 16b, insert "SGG18" |
| 3266 PG II | in column 16b, insert "SGG18" |
| 3266 PG III | in column 16b, insert "SGG18" |
| 3267 PG I | in column 16b, insert "SGG18" |
| 3267 PG II | in column 16b, insert "SGG18" |
| 3267 PG III | in column 16b, insert "SGG18" |

| | |
|----------------|--|
| 3277 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3293 | in column 16b, insert "SGG18" |
| 3302 | in column 2, at the end of the designation, add ", STABILIZED"; in column 6, add "386" |
| 3316 PG II | in column 5, delete "II" |
| 3316 PG III | delete this entire entry |
| 3318 | in column 16b, insert "SGG18" |
| 3320 PG II | in column 16b, insert "SGG18" |
| 3320 PG III | in column 16b, insert "SGG18" |
| 3332 | in column 15, replace "S-S" with "S-S" |
| 3333 | in column 15, replace "S-S" with "S-S" |
| 3360 | in column 6, insert "973" |
| 3361 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3362 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3375 | in column 16b, insert "SGG2" |
| 3377 | in column 16b, insert "SGG16" |
| 3378 PG II | in column 16b, insert "SGG16" |
| 3378 PG III | in column 16b, insert "SGG16" |
| 3401 | in column 16b, insert "SGG7" and "SGG11" |
| 3402 | in column 16b, insert "SGG7" and "SGG11" |
| 3405 PG II | in column 16b, insert "SGG4" |
| 3405 PG III | in column 16b, insert "SGG4" |
| 3406 PG II | in column 16b, insert "SGG13" |
| 3406 PG III | in column 16b, insert "SGG13" |
| 3407 PG II | in column 16b, insert "SGG4" |
| 3407 PG III | in column 16b, insert "SGG4" |
| 3408 PG II | in column 16b, insert "SGG7", "SGG9" and "SGG13" |
| 3408 PG III | in column 16b, insert "SGG7", "SGG9" and "SGG13" |
| 3412 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3412 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3413 PG I | in column 16b, insert "SGG6" |
| 3413 PG II | in column 16b, insert "SGG6" |
| 3413 PG III | in column 16b, insert "SGG6" |
| 3414 PG I | in column 16b, insert "SGG6" |

| | |
|----------------|---|
| 3414 PG II | in column 16b, insert "SGG6" |
| 3414 PG III | in column 16b, insert "SGG6" |
| 3419 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3420 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3421 PG II | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3421 PG III | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3423 | in column 16b, insert "SGG2" and "SGG18" |
| 3424 PG II | in column 16b, insert "SGG2" |
| 3424 PG III | in column 16b, insert "SGG2" |
| 3425 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3449 | in column 16b, insert "SGG6" |
| 3453 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3456 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3463 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3472 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3480 | in column 6, insert "387"; in column 8, insert "P911", "LP905" and "LP906" |
| 3481 | in column 6, insert "387"; in column 8, insert "P911", "LP905" and "LP906" |
| 3483 | in column 16b, insert "SGG7" and "SGG9" |
| 3484 | in column 16b, insert "SGG18" |
| 3485 | in column 16b, insert "SGG8" |
| 3486 | in column 16b, insert "SGG8" |
| 3487 PG II | in column 16b, insert "SGG8" |
| 3487 PG III | in column 16b, insert "SGG8" |
| 3496 | in column 17, replace the sentence by "Nickel-metal hydride cells or batteries packed with or contained in equipment and nickel-metal hydride button are not subject to the provisions of this Code." |
| 3498 | in column 16b, insert "SGG1", "SG36" and "SG49" |
| 3507 | in column 16b, insert "SG77" |

Add the following new entries to the Dangerous Goods List:

| (1) | (2) | (3) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16a) | (16b) | (17) | |
|------|--|-----|-------------|-----|------------|-------|------|--------------|-----|-------|-----------|------|------|------|----------|-------------------|-------|--|---|
| 3535 | TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S. | 6.1 | 4.1 | I | 274 | 0 | E5 | P002 | - | IBC99 | - | - | T6 | TP33 | F-A, S-G | Category B | - | Toxic if swallowed, by skin contact or by dust inhalation. | |
| 3535 | TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S. | 6.1 | 4.1 | II | 274 | 500 g | E4 | P002 | - | IBC08 | B4 B21 | - | T3 | TP33 | F-A, S-G | Category B | - | See entry above. | |
| 3536 | LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT (lithium ion batteries or lithium metal) | 9 | - | - | 389 | 0 | E0 | - | - | - | - | - | - | - | F-A, S-I | Category A | - | Cargo transport unit containing lithium metal or lithium ion batteries which is designed to serve as mobile power supply unit. | |
| 3537 | ARTICLES CONTAINING FLAMMABLE GAS, N.O.S. | 2.1 | See 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-D, S-U | Category D SM2 | - | - | |
| 3538 | ARTICLES CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S. | 2.2 | See 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-C, S-U | Category A | - | - | |
| 3539 | ARTICLES CONTAINING TOXIC GAS, N.O.S. | 2.3 | See 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-C, S-U | - | - | - | |
| 3540 | ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S. | 3 | See 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-E, S-D | Category B | - | - | |
| 3541 | ARTICLES CONTAINING FLAMMABLE SOLID, N.O.S. | 4.1 | See 2.0.6.6 | - | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | F-A, S-G | Category B | - | - | |
| 3542 | ARTICLES CONTAINING A SUBSTANCE LIABLE TO SPONTANEOUS COMBUSTION, N.O.S. | 4.2 | See 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | - | - | - | - | * F-G, S-M for pyrophoric substances, F-A, S-I for self-heating substances. |
| 3543 | ARTICLES CONTAINING A SUBSTANCE WHICH EMITS FLAMMABLE GAS IN CONTACT WITH WATER, N.O.S. | 4.3 | See 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-G, S-N | - | - | - | |
| 3544 | ARTICLES CONTAINING OXIDIZING SUBSTANCE, N.O.S. | 5.1 | See 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-A, S-Q | - | - | - | |
| 3545 | ARTICLES CONTAINING ORGANIC PEROXIDE, N.O.S. | 5.2 | See 2.0.6.6 | - | 274 391 | 0 | E0 | - | - | - | - | - | - | - | F-I, S-R | - | - | - | |

| (1) | (2) | (3) | (4) | (5) | (6) | (7a) | (7b) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16a) | (16b) | (17) |
|------|---|-----|-------------|------------|-----|------|--------------|-----|-----|------|------|------|------|------|-----------------|-------------------|-------|---|
| 3546 | ARTICLES CONTAINING TOXIC SUBSTANCE, N.O.S. | 6.1 | See 2.0.6.6 | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | - | F-A, S-A SW2 | Category B SW2 | - | Toxic if swallowed, by skin contact or by dust inhalation. When competent authority approval is required by SF391, the stowage and handling will be specified by the competent authority. Causes burns to skin, eyes and mucous membranes. |
| 3547 | ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S. | 8 | See 2.0.6.6 | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | - | F-A, S-B SW2 | Category B SW2 | - | - |
| 3548 | ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS, N.O.S. | 9 | See 2.0.6.6 | 274 391 | 0 | E0 | P006 LP03 | - | - | - | - | - | - | - | F-A, S-P | Category A | - | - |

Chapter 3.3 Special provisions applicable to certain substances, materials or articles

3.3.1 In the third sentence, replace "such as "Damaged Lithium Batteries"" with "such as "LITHIUM BATTERIES FOR DISPOSAL"".

SP 29 Amend to read as follows:

"29 The packages, including bales, are exempt from labelling provided that they are marked with the appropriate class (e.g. "class 4.2")."

SP 63 In the introductory text, replace "risks" with "hazard(s)". In .5 replace "risk" with "hazard". In .7 replace "risk" with "hazard" and replace "risk(s)" with "hazard(s)".

SP 122 Replace "risk(s)" with "hazard(s)".

SP 133 Replace "risk" with "hazard".

SP 172 Replace "risk(s)" with "hazard(s)". In .1 and .2, replace "risk" with "hazard". In .3, replace "risk(s)" with "hazard(s)".

SP 181 Replace "risk" with "hazard".

SP 186 is deleted.

SP 188 In sub-paragraph .3, replace "2.9.4.1 and 2.9.4.5" with "2.9.4.1, 2.9.4.5, 2.9.4.6 if applicable and 2.9.4.7"

In sub-paragraph .4, replace "protection against contact with conductive materials" with "protection against contact with electrically conductive material". At the end of .4, replace "." with ";".

In sub-paragraph .5, at the end, add the following two new sentences:

"When packages are placed in an overpack, the lithium battery mark shall either be clearly visible or be reproduced on the outside of the overpack and the overpack shall be marked with the word "OVERPACK". The lettering of the "OVERPACK" mark shall be at least 12 mm high;"

In sub-paragraph .6, rename the existing note as note 1 and add the following new note 2:

Note 2: Packages containing lithium batteries packed in conformity with the provisions of part 4, chapter 11, packing instructions 965 or 968, Section IB of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air that bear the mark as shown in 5.2.1.10 (lithium battery mark) and the label shown in 5.2.2.2.2, Model No. 9A shall be deemed to meet the provisions of this special provision."

In the first paragraph after sub-paragraph .8, at the end, add the following sentence:

"As used in this special provision "equipment" means apparatus for which the lithium cells or batteries will provide electrical power for its operation."

SP 193 Amend to read as follows:

"193 This entry may only be used for ammonium nitrate based compound fertilizers. They shall be classified in accordance with the procedure as set out in the Manual of Tests and Criteria, part III, section 39. "

SP 204 Replace "risk" with "hazard" twice and add the word "hazard" between "subsidiary" and "label" in the last sentence.

SP 240 is deleted.

SP 251 In the first paragraph, replace the last sentence with:

"Such kits shall only contain dangerous goods that are permitted as:

- .1 excepted quantities not exceeding the quantity indicated by the Code in column 7b of the Dangerous Goods List of chapter 3.2, provided that the net quantity per inner packaging and net quantity per package are as prescribed in 3.5.1.2 and 3.5.1.3; or
- .2 limited quantities as indicated in column 7a of the Dangerous Goods List of chapter 3.2, provided that the net quantity per inner packaging does not exceed 250 ml or 250 g."

In the second paragraph, delete the last sentence.

In the third paragraph, insert a new first sentence to read as follows:

"For the purposes of completion of the dangerous goods transport document as set out in 5.4.1.4.1, the packing group shown on the document shall be the most stringent packing group assigned to any individual substance in the kit."

SP 271 Replace "risk" with "hazard".

SP 290 In sub-paragraph .2, replace "risk" with "hazard".

SP 293 In sub-paragraph .2, after "Safety matches are", insert "matches that".

SP 296 Replace "risk" with "hazard".

SP 301 At the beginning, replace "substance" with "goods". Amend the fifth and sixth sentences to read as follows:

"If the machinery or apparatus contains more than one item of dangerous goods, the individual dangerous goods shall be enclosed to prevent them reacting dangerously with one another during transport (see 4.1.1.6). When it is required to ensure liquid dangerous goods remain in their intended orientation, orientation arrows shall be displayed on at least two opposite vertical sides with the arrows pointing in the correct direction in accordance with 5.2.1.7.1."

Delete the last sentence.

SP 307 Amend to read as follows:

"307 This entry may only be used for ammonium nitrate based fertilizers. They shall be classified in accordance with the procedure as set out in the Manual of Tests and Criteria, part III, section 39."

SP 308 Amend to read as follows:

"308* Stabilization of fish meal shall be achieved to prevent spontaneous combustion by effective application of ethoxyquin, BHT (butylated hydroxytoluene) or tocopherols (also used in a blend with rosemary extract) at the time of production. The said application shall occur within twelve months prior to shipment. Fish scrap or fish meal shall contain at least 50 ppm (mg/kg) of ethoxyquin, 100 ppm (mg/kg) of BHT or 250 ppm (mg/kg) of tocopherol based antioxidant at the time of shipment."

and add a corresponding footnote * as follows:

"* For the transport of fish meal in bulk, see the IMSBC Code."

SP 310 In the first paragraph, replace "cells and batteries" with "cells or batteries", twice, and add "or LP905 of 4.1.4.3, as applicable" at the end.

SP 312 is deleted.

SP 362 In sub-paragraph .2 and .3, replace "risk" with "hazard".

SP 363 Add the following new introductory sentence:

"This entry may only be used when the conditions of this special provision are met. No other provisions of this Code apply, except for special provision 972, chapter 5.4, part 7 and columns 16a and 16b of the Dangerous Goods List."

Replace the existing sub-paragraph .7 with the following:

".7 The engine or machinery, including the means of containment containing dangerous goods, shall be in compliance with the construction requirements specified by the competent authority.

.8 Any valves or openings (e.g. venting devices) shall be closed during transport.

.9 The engines or machinery shall be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the engines or machinery to prevent any movement during transport which would change the orientation or cause them to be damaged.

.10 For UN 3528 and UN 3530:

- where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of not more than 450 L, the labelling requirements of 5.2.2 shall apply;

- where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of more than 450 L but not more than 3,000 L, it shall be labelled on two opposing sides in accordance with 5.2.2;
- where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of more than 3,000 L, it shall be placarded on two opposing sides in accordance with 5.3.1.1.2; and
- in addition to the above requirements, for UN 3530, where the engine or machinery contains more than 60 L of liquid fuel and the capacity does not exceed 3,000 L, the marking requirements of 5.2.1.6 apply; and where the engine or machinery contains more than 60 L of liquid fuel and the capacity exceeds 3,000 L, the marking requirements of 5.3.2.3.2 apply.

.11 For UN 3529:

- where the fuel tank of the engine or machinery has a water capacity of not more than 450 L, the labelling requirements of 5.2.2 shall apply;
- where the fuel tank of the engine or machinery has a water capacity of more than 450 L but not more than 1,000 L, it shall be labelled on two opposing sides in accordance with 5.2.2; and
- where the fuel tank of the engine or machinery has a water capacity of more than 1,000 L, it shall be placarded on two opposing sides in accordance with 5.3.1.1.2.

.12 The transport document shall contain the following additional statement "Transport in accordance with special provision 363".

.13 The requirements specified in packing instruction P005 of 4.1.4.1 shall be met."

SP 369 In the first paragraph, replace "risks" with "hazards". In the third paragraph, replace "risk" with "hazard".

SP 376 Amend the text after the third paragraph to read as follows:

"Cells and batteries shall be packed in accordance with packing instructions P908 of 4.1.4.1 or LP904 of 4.1.4.3, as applicable.

Cells and batteries identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport shall be packed and transported in accordance with packing instruction P911 of 4.1.4.1 or LP906 of 4.1.4.3, as applicable. Alternative packing and/or transport conditions may be authorized by the competent authority.

Packages shall be marked "DAMAGED/DEFECTIVE" in addition to the proper shipping name, as stated in 5.2.1.

The transport document shall include the following statement "Transport in accordance with special provision 376".

If applicable, a copy of the competent authority approval shall accompany the transport."

SP 377 At the end, add a new paragraph as follows:

"The transport document shall include the following statement: "Transport in accordance with special provision 377"."

SP 380 is deleted.

SP 384 Delete the note.

SP 385 is deleted.

SP 907 Replace the terms "which must exceed 100 mg/kg" with "see special provision 308".

SP 943 Replace "subsidiary risk" with "subsidiary hazard".

SP 945 is deleted.

SP 959 Replace "subsidiary risk(s)" with "subsidiary hazard(s)".

SP 961 In sub-paragraph .1, replace "2.9.4.1 does" with "2.9.4.1 and 2.9.4.7 do".

SP 962 In sub-paragraph .4, replace "2.9.4.1 does" with "2.9.4.1 and 2.9.4.7 do".

SP 963 Replace the first sentence with the following:

"Nickel-metal hydride cells or batteries packed with or contained in equipment and nickel-metal hydride button cells are not subject to the provisions of this Code."

SP 972 Replace "2.9.4.1 does" with "2.9.4.1 and 2.9.4.7 do".

Add the following new special provisions:

"387 Lithium batteries in conformity with 2.9.4.6 containing both primary lithium metal cells and rechargeable lithium ion cells shall be assigned to UN 3090 or 3091 as appropriate. When such batteries are transported in accordance with special provision 188, the total lithium content of all lithium metal cells contained in the battery shall not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery shall not exceed 10 Wh."

"388 UN 3166 entries apply to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.

Vehicles powered by a fuel cell engine shall be assigned to the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

Other vehicles which contain an internal combustion engine shall be assigned to the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed. If a vehicle is powered by a flammable liquid and a flammable gas internal combustion engine, it shall be assigned to UN 3166 VEHICLE, FLAMMABLE GAS POWERED.

Entry UN 3171 only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries transported with these batteries installed.

For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with a motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheelchairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. This includes vehicles transported in a packaging. In this case some parts of the vehicle may be detached from its frame to fit into the packaging.

Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries shall be assigned to the entries UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT or UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, as appropriate.

Dangerous goods, such as batteries, airbags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator or passengers, shall be securely installed in the vehicle and are not otherwise subject to this Code."

"389 This entry only applies to lithium ion batteries or lithium metal batteries installed in a cargo transport unit and designed only to provide power external to the cargo transport unit. The lithium batteries shall meet the requirements of 2.9.4.1 to .7 and contain the necessary systems to prevent overcharge and overdischarge between the batteries.

The batteries shall be securely attached to the interior structure of the cargo transport unit (e.g. by means of placement in racks, cabinets, etc.) in such a manner as to prevent short circuits, accidental operation, and significant movement relative to the cargo transport unit under the shocks, loadings and vibrations normally incident to transport. Dangerous goods necessary for the safe and proper operation of the cargo transport unit (e.g. fire-extinguishing systems and air-conditioning systems), shall be properly secured to or installed in the cargo transport unit and are not otherwise subject to this Code. Dangerous goods not necessary for the safe and proper operation of the cargo transport unit shall not be transported within the cargo transport unit.

The batteries inside the cargo transport unit are not subject to marking or labelling requirements. The cargo transport unit shall display the UN number in accordance with 5.3.2.1.2 and be placarded on two opposing sides in accordance with 5.3.1.1.2."

"391 Articles containing dangerous goods of class 2.3, or class 4.2, or class 4.3, or class 5.1, or class 5.2 or class 6.1 for substances of inhalation toxicity requiring packing group I and articles containing more than one of the hazards listed in 2.0.3.4.2 to 2.0.3.4.4 shall be transported under conditions approved by the competent authority."

"392 For the transport of fuel gas containment systems designed and approved to be fitted in motor vehicles containing this gas, the provisions of subsection 4.1.4.1 and chapter 6.2 of this Code need not be applied when transported for disposal, recycling, repair, inspection, maintenance or from where they are manufactured to a vehicle assembly plant, provided the following conditions are met:

1 the fuel gas containment systems shall meet the requirements of the standards or regulations for fuel tanks for vehicles, as applicable. Examples of applicable standards and regulations are:

| LPG tanks | |
|-------------------------------------|---|
| ECE Regulation No. 67 Revision 2 | Uniform provisions concerning: I. Approval of specific equipment of vehicles of category M and N using liquefied petroleum gases in their propulsion system; II. Approval of vehicles of category M and N fitted with specific equipment for the use of liquefied petroleum gases in their propulsion system with regard to the installation of such equipment |
| ECE Regulation No. 115 | Uniform provisions concerning the approval of: I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system |
| CNG tanks | |
| ECE Regulation No. 110 | Uniform provisions concerning: I. Specific components of motor vehicles using compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system; II. Vehicles with regard to the installation of specific components of an approved type for the use of compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system |
| ECE Regulation No. 115 | (Uniform provisions concerning the approval of I. Specific LPG (liquefied petroleum gases) retrofit systems to be installed in motor vehicles for the use of LPG in their propulsion systems; II. Specific CNG (compressed natural gas) retrofit systems to be installed in motor vehicles for the use of CNG in their propulsion system) |
| ISO 11439:2013 | Gas cylinders – High pressure cylinders for the onboard storage of natural gas as a fuel for automotive vehicles |

| | |
|--|---|
| ISO 15500-Series | ISO 15500: Road vehicles – Compressed natural gas (CNG) fuel system components – several parts as applicable |
| ANSI NGV 2 | Compressed natural gas vehicle fuel containers |
| CSA B51 Part 2: 2014 | Boiler, pressure vessel, and pressure piping code Part 2 Requirements for high-pressure cylinders for onboard storage of fuels for automotive vehicles |
| Hydrogen pressure tanks | |
| Global Technical Regulation (GTR) No. 13 | Global technical regulation on hydrogen and fuel cell vehicles (ECE/TRANS/180/Add.13) |
| ISO/TS 15869:2009 | Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks |
| Regulation (EC) No.79/2009 | Regulation (EC) No. 79/2009 of the European Parliament and of the Council of 14 January 2009 on type approval of hydrogen-powered motor vehicles, and amending Directive 2007/46/EC |
| Regulation (EU) No. 406/2010 | Commission Regulation (EU) No. 406/2010 of 26 April 2010 implementing Regulation (EC) No. 79/2009 of the European Parliament and of the Council on type-approval of hydrogen-powered motor vehicles |
| ECE Regulation No. 134 | Hydrogen and fuel cell vehicles (HFCV) |
| CSA B51 Part 2: 2014 | Boiler, pressure vessel, and pressure piping code Part 2 Requirements for high-pressure cylinders for onboard storage of fuels for automotive vehicles |

Gas tanks designed and constructed in accordance with previous versions of relevant standards or regulations for gas tanks for motor vehicles, which were applicable at the time of the certification of the vehicles for which the gas tanks were designed and constructed may continue to be transported;

- .2 the fuel gas containment systems shall be leakproof and shall not exhibit any signs of external damage which may affect their safety;

Note 1: Criteria may be found in standard ISO 11623:2015 *Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders* (or ISO 19078:2013 *Gas cylinders – Inspection of the cylinder installation, and requalification of high pressure cylinders for the onboard storage of natural gas as a fuel for automotive vehicles*).

Note 2: If the fuel gas containment systems are not leakproof or are overfilled or if they exhibit damage that could affect their safety (e.g. in case of a safety-related recall), they shall only be carried in salvage pressure receptacles in conformity with this Code.

- .3 if a fuel gas containment system is equipped with two valves or more integrated in line, the two valves shall be closed as to be gastight under normal conditions of transport. If only one valve exists or only one valve works, all openings with the exception of the opening of the pressure relief device shall be closed as to be gastight under normal conditions of transport;
- .4 fuel gas containment systems shall be transported in such a way as to prevent obstruction of the pressure relief device or any damage to the

valves and any other pressurised part of the fuel gas containment systems and unintentional release of the gas under normal conditions of transport. The fuel gas containment system shall be secured in order to prevent slipping, rolling or vertical movement;

- .5 valves shall be protected by one of the methods described in 4.1.6.1.8.1 to 4.1.6.1.8.5;
- .6 except for the case of fuel gas containment systems removed for disposal, recycling, repair, inspection or maintenance, they shall be filled with not more than 20% of their nominal filling ratio or nominal working pressure, as applicable;
- .7 notwithstanding the provisions of chapter 5.2, when fuel gas containment systems are consigned in a handling device, markings and labels may be affixed to the handling device; and
- .8 notwithstanding the provisions of 5.4.1.5, the information on the total quantity of dangerous goods may be replaced by the following information:
 - .1 the number of fuel gas containment systems; and
 - .2 in the case of liquefied gases the total net mass (kg) of gas of each fuel gas containment system and, in the case of compressed gases, the total water capacity (l) of each fuel gas containment system followed by the nominal working pressure.

Examples for information in the transport document:

Example 1: "UN 1971 natural gas, compressed, 2.1, 1 fuel gas containment system of 50 l in total, 200 bar".

Example 2: "UN 1965 hydrocarbon gas mixture, liquefied, n.o.s., 2.1, 3 fuel gas containment systems, each of 15 kg net mass of gas".

"973 Packages, with the exception of bales, shall also display the proper shipping name and the UN number of the substance that they contain in accordance with 5.2.1. In any case, the packages, including bales, are exempt from class marking provided that they are loaded in a cargo transport unit and that they contain goods to which only one UN number has been assigned. The cargo transport units in which the packages, including bales, are loaded shall display any relevant labels, placards and marks in accordance with chapter 5.3."

"974 These substances may be transported in IMO type 9 tanks."

Chapter 3.4

Dangerous goods packed in limited quantities

3.4.6 Documentation

3.4.6.1 Replace the words "dangerous goods declaration" with "dangerous goods transport document".

Chapter 3.5
Dangerous goods packed in excepted quantities

3.5.6 Documentation

3.5.6.1 Replace the words "dangerous goods declaration" with "dangerous goods transport document".

PART 4
PACKING AND TANK PROVISIONS

Chapter 4.1
Use of packagings, including intermediate bulk containers (IBCs)
and large packagings

4.1.4 List of packing instructions

4.1.4.1 Packing instructions concerning the use of packagings (except IBCs and large packagings)

P001 Under "Composite packagings", in the first line, replace "Plastics receptacle in steel or aluminium drum (6HA1, 6HB1)" with "Plastics receptacle in steel, aluminium or plastics drum (6HA1, 6HB1, 6HH1)". In the second line, replace "Plastics receptacle in fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1)" with "Plastics receptacle in fibre or plywood drum (6HG1, 6HD1)".

P101 Replace "The State's distinguishing sign for motor vehicles in international traffic" with "The distinguishing sign used on vehicles in international road traffic".

Table note * reads as follows:

"* Distinguishing sign of the State of registration used on motor vehicles and trailers in international road traffic, e.g. in accordance with the Geneva Convention on Road Traffic of 1949 or the Vienna Convention on Road Traffic of 1968."

P200 In paragraph (3) (e), in the first paragraph, replace "liquid phase" with "liquefied gas". In sub-paragraph (i), replace "liquid component" with "liquefied gas". In sub-paragraph (iv), replace "liquid component" with "liquefied gas". In sub-paragraph (v), replace "liquid component" with "liquefied gas". In the last paragraph, replace "liquid component" with "liquid phase". In the header of column 4 of tables 1, 2 and 3, replace "risk" with "hazard".

P203 In paragraph (7), replace "risk" with "hazard".

P206 In paragraph (3), in the first paragraph, replace "liquid phase" with "liquefied gas". In sub-paragraph (a), replace "liquid component" with "liquefied gas". In sub-paragraph (d), replace "liquid component" with "liquefied gas". In sub-paragraph (e), replace "liquid component" with "liquefied gas". In the last paragraph, replace "liquid component" with "liquid phase".

P208 In the header of column 4 of table 1, replace "risk" with "hazard".

P403 In special packing provisions PP31, delete ", except for solid fused material".

P410 Replace the table note (4) with the following:

"For packing group II substances, these packagings may only be used when transported in a closed cargo transport unit."

P520 In additional provision 4, replace "risk" with "hazard". Furthermore, add the following new special packing provisions PP94 and PP95:

"PP94 Very small amounts of energetic samples of section 2.0.4.3 may be carried under UN 3223 or UN 3224, as appropriate, provided that:

- .1 only combination packaging with outer packaging comprising boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1 and 4H2) are used;
- .2 the samples are carried in microtiter plates or multi-titer plates made of plastics, glass, porcelain or stoneware as inner packaging;
- .3 the maximum amount per individual inner cavity does not exceed 0.01 g for solids or 0.01 ml for liquids;
- .4 the maximum net quantity per outer packaging is 20 g for solids or 20 ml for liquids, or in the case of mixed packing the sum of grams and millilitres does not exceed 20; and
- .5 when dry ice or liquid nitrogen is optionally used as a coolant for quality control measures, the requirements of 5.5.3 are complied with. Interior supports shall be provided to secure the inner packagings in their original position. The inner and outer packagings shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.

PP95 Small amounts of energetic samples of section 2.0.4.3 may be carried under UN 3223 or UN 3224, as appropriate, provided that:

- .1 the outer packaging consist only of corrugated fibreboard of type 4G having minimum dimensions of 60 cm (length) by 40.5 cm (width) by 30 cm (height) and minimum wall thickness of 1.3 cm;
- .2 the individual substance is contained in an inner packaging of glass or plastics of maximum capacity 30 ml placed in an expandable polyethylene foam matrix of at least 130 mm thickness having a density of 18 ± 1 g/l;
- .3 within the foam carrier, inner packagings are segregated from each other by a minimum distance of 40 mm and from the wall of the outer packaging by a minimum distance of 70 mm. The package may contain up to two layers of such foam matrices, each carrying up to 28 inner packagings;
- .4 the maximum content of each inner packaging does not exceed 1 g for solids or 1 ml for liquids;
- .5 the maximum net quantity per outer packaging is 56 g for solids or 56 ml for liquids, or in the case of mixed packing the sum of grams and millilitres does not exceed 56; and
- .6 when dry ice or liquid nitrogen is optionally used as a coolant for quality control measures, the requirements of 5.5.3 are complied with. Interior supports shall be provided to secure the inner packagings in their original

position. The inner and outer packagings shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost."

P620 In additional provision 3, at the end, delete "and temperatures in the range -40°C to +55°C" and add the following new sentence: "This primary receptacle or secondary packaging shall also be capable of withstanding temperatures in the range -40°C to +55°C."

P801 In additional provision 2, replace "non-conductive" with "electrically non-conductive".

P901 Under "Additional requirement", delete "not exceed either 250 ml or 250 g and shall".

P902 In the paragraph under "Unpackaged articles:", amend the end of the sentence to read "when moved to, from, or between where they are manufactured and an assembly plant including intermediate handling locations."

P903 Before the introductory sentence that starts with "The following packagings...", insert a new sentence to read "For the purpose of this packing instruction, "equipment" means apparatus for which the lithium cells or batteries will provide electrical power for its operation.". In paragraph (3), delete the last sentence.

P906 In paragraph (2), in the introductory sentence and in sub-paragraph (b), replace "devices" with "articles" three times.

P907 At the beginning, add a new box with the following sentence:

"This instruction applies to UN 3363."

P908 In paragraphs (2) and (4), replace "non-conductive" with "electrically non-conductive".

P909 In paragraphs (1)(c) and (2)(b), in the fourth indent of additional requirement 2 and in additional requirement 3, replace "non-conductive" with "electrically non-conductive".

P910 In the introductory sentence, replace "cells and batteries" with "cells or batteries" twice.

In paragraphs (1)(c), (1)(d), (2)(c), and fourth indent of the additional requirements, replace "non-conductive" with "electrically non-conductive".

Insert the following new packing instructions:

| P006 | PACKING INSTRUCTION | P006 |
|--|---------------------|------|
| This instruction applies to UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 and 3548. | | |
| <p>(1) The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met: drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2); and jerricans (3A2, 3B2, 3H2). Packagings shall conform to the packing group II performance level.</p> <p>(2) In addition, for robust articles the following packagings are authorized: Strong outer packagings constructed of suitable material and of adequate strength and design in relation to the packaging capacity and its intended use. The packagings shall meet the provisions of 4.1.1.1, 4.1.1.2, 4.1.1.8 and 4.1.3 in order to achieve a level of protection that is at least equivalent to that provided by chapter 6.1. Articles may be transported unpackaged or on pallets when the dangerous goods are afforded equivalent protection by the article in which they are contained.</p> <p>(3) Additionally, the following conditions shall be met:</p> <ul style="list-style-type: none"> (a) receptacles within articles containing liquids or solids shall be constructed of suitable materials and secured in the article in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the article itself or the outer packaging; (b) receptacles containing liquids with closures shall be packed with their closures correctly oriented. The receptacles shall in addition conform to the internal pressure test provisions of 6.1.5.5; (c) receptacles that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastic materials, shall be properly secured. Any leakage of the contents shall not substantially impair the protective properties of the article or of the outer packaging; (d) receptacles within articles containing gases shall meet the requirements of section 4.1.6 and chapter 6.2 as appropriate or be capable of providing an equivalent level of protection to packing instructions P200 or P208; and (e) where there is no receptacle within the article, the article shall fully enclose the dangerous substances and prevent their release under normal conditions of transport. <p>(4) Articles shall be packed to prevent movement and inadvertent operation during normal conditions of transport.</p> | | |

| P911 | PACKING INSTRUCTION | P911 |
|--|---------------------|------|
| This instruction applies to damaged or defective cells and batteries of UN Nos. 3090, 3091, 3480 and 3481 liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport. | | |
| <p>The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>For cells and batteries and equipment containing cells and batteries: drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2); and jerricans (3A2, 3B2, 3H2).</p> <p>The packagings shall conform to the packing group I performance level.</p> | | |

| P911 | PACKING INSTRUCTION | P911 |
|--|---------------------|------|
| <p>(1) The packaging shall be capable of meeting the following additional performance requirements in case of rapid disassembly, dangerous reaction, production of a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours of the cells or batteries:</p> <ul style="list-style-type: none"> (a) the outside surface temperature of the completed package shall not have a temperature of more than 100°C. A momentary spike in temperature up to 200°C is acceptable; (b) no flame shall occur outside the package; (c) no projectiles shall exit the package; (d) the structural integrity of the package shall be maintained; and (e) the packagings shall have a gas management system (e.g. filter system, air circulation, containment for gas, gas tight packaging, etc.), as appropriate. <p>(2) The additional packaging performance requirements shall be verified by a test as specified by the competent authority.^a</p> <p>A verification report shall be available on request. As a minimum requirement, the cell or battery name, the cell or battery number, the mass, type, energy content of the cells or batteries, the packaging identification and the test data according to the verification method as specified by the competent authority shall be listed in the verification report.</p> <p>(3) When dry ice or liquid nitrogen is used as a coolant, the requirements of section 5.5.3 shall apply. The inner packaging and outer packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.</p> | | |
| <p>Additional requirement: Cells or batteries shall be protected against short circuit.</p> | | |
| <p>^a <i>The following criteria, as relevant, may be considered to assess the performance of the packaging:</i></p> <ul style="list-style-type: none"> (a) <i>the assessment shall be done under a quality management system (as described, e.g. in section 2.9.4.5) allowing for the traceability of tests results, reference data and characterization models used;</i> (b) <i>the list of hazards expected in case of thermal runaway for the cell or battery type, in the condition it is transported (e.g. usage of an inner packaging, state of charge (SOC), use of sufficient non-combustible, electrically non-conductive and absorbent cushioning material, etc.), shall be clearly identified and quantified; the reference list of possible hazards for lithium cells or batteries (rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours) can be used for this purpose. The quantification of these hazards shall rely on available scientific literature;</i> (c) <i>the mitigating effects of the packaging shall be identified and characterized, based on the nature of the protections provided and the construction material properties. A list of technical characteristics and drawings shall be used to support this assessment (Density [kg·m⁻³], specific heat capacity [J·kg⁻¹·K⁻¹], heating value [kJ·kg⁻¹], thermal conductivity [W·m⁻¹·K⁻¹], melting temperature and flammability temperature [K], heat transfer coefficient of the outer packaging [W·m⁻²·K⁻¹], ...);</i> (d) <i>the test and any supporting calculations shall assess the result of a thermal runaway of the cell or battery inside the packaging in the normal conditions of transport;</i> (e) <i>in case the SOC of the cell or battery is not known, the assessment used shall be done with the highest possible SOC corresponding to the cell or battery use conditions;</i> (f) <i>the surrounding conditions in which the packaging may be used and transported shall be described (including for possible consequences of gas or smoke emissions on the</i> | | |

| P911 | PACKING INSTRUCTION | P911 |
|--|---------------------|------|
| <p>environment, such as ventilation or other methods) according to the gas management system of the packaging;</p> <p>(g) the tests or the model calculation shall consider the worst case scenario for the thermal runaway triggering and propagation inside the cell or battery: this scenario includes the worst possible failure in the normal transport condition, the maximum heat and flame emissions for the possible propagation of the reaction; and</p> <p>(h) these scenarios shall be assessed over a period long enough to allow all the possible consequences to occur (e.g. 24 hours).</p> | | |

4.1.4.2 Packing instructions concerning the use of IBCs

IBC 08 In the special packing provisions of B21, add a new substance of UN 3535 in the first sentence, to read "For substances, UN Nos. 1374, 2590 and 3535 in IBCs other than..."

IBC520 In the third line, after "4.1.7.2 are met.", insert a new sentence to read as follows:

"The formulations listed below may also be transported packed in accordance with packing method OP8 of packing instruction P520 of 4.1.4.1, with the same control and emergency temperatures, if applicable."

For UN 3109, in the entry "tert-Butyl hydroperoxide, not more than 72% with water", add a new line under the column "Type of IBC" and "quantity" to read:

"31HA1" "1000"

Add the following new entries to packing instruction IBC520:

| UN No. | Organic peroxide | Type of IBC | Maximum quantity (litres) | Control temperature | Emergency Temperature |
|--------|---|-------------|---------------------------|---------------------|-----------------------|
| 3109 | 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane, not more than 52% in diluent type A | 31HA1 | 1000 | | |
| 3109 | 3,6,9-Triethyl-3,6,9-trimethyl-1,4,7-triperoxonane, not more than 27% in diluent type A | 31HA1 | 1000 | | |
| 3119 | tert-Amyl peroxy-2-ethylhexanoate, not more than 62% in diluent type A | 31HA1 | 1000 | +15°C | +20°C |

4.1.4.3 Packing instructions concerning the use of large packagings

LP902 Under "Packaged articles", replace "Packagings conforming to the packing group III performance level." with:

"Rigid large packagings conforming to the packing group III performance level, made of:

steel (50A);
aluminium (50B);
metal other than steel or aluminium (50N);
rigid plastics (50H);
natural wood (50C);
plywood (50D);
reconstituted wood (50F); and
rigid fibreboard (50G)."

In the paragraph under "Unpackaged articles:", amend the end of the sentence to read "when moved to, from or between where they are manufactured and an assembly plant including intermediate handling locations."

LP903 Replace the second sentence with the following:

"The following large packagings are authorized for a single battery and for a single item of equipment containing cells or batteries, provided that the general provisions of 4.1.1 and 4.1.3 are met:"

LP904 Replace the first sentence with the following:

"This instruction applies to single damaged or defective batteries and to single items of equipment containing damaged or defective cells or batteries of UN Nos. 3090, 3091, 3480 and 3481."

Replace the second sentence with the following:

"The following large packagings are authorized for a single damaged or defective battery and for a single item of equipment containing damaged or defective cells or batteries, provided the general provisions of 4.1.1 and 4.1.3 are met."

In the third sentence, replace "containing batteries" with "containing cells and batteries". Before "steel (50A)", insert the following new line: "Rigid large packagings conforming to the packing group II performance level, made of:". After "plywood (50D)", delete "Packagings shall conform to the packing group II performance level."

Amend the beginning of the first sentence of paragraph .1 to read as follows:

"The damaged or defective battery or equipment containing such cells or batteries shall be ...".

In .2, amend the beginning of the sentence to read "The inner packaging". Replace "non-conductive" with "electrically non-conductive".

In .4, after "movement of the battery" add "or the equipment". Replace "non-conductive" with "electrically non-conductive". In the last sentence, after "For leaking batteries", add "and cells," In the additional requirement, after "Batteries", add "and cells".

Insert the following new packing instructions:

| LP03 | PACKING INSTRUCTION | LP03 |
|---|---------------------|------|
| This instruction applies to UN Nos. 3537, 3538, 3540, 3541, 3546, 3547 and 3548. | | |
| <p>(1) The following large packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Rigid large packagings conforming to the packing group II performance level, made of:</p> <ul style="list-style-type: none"> steel (50A); aluminium (50B); metal other than steel or aluminium (50N); rigid plastics (50H); natural wood (50C); plywood (50D); reconstituted wood (50F); and rigid fibreboard (50G). | | |
| <p>(2) Additionally, the following conditions shall be met:</p> <ul style="list-style-type: none"> (a) receptacles within articles containing liquids or solids shall be constructed of suitable materials and secured in the article in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the article itself or the outer packaging; (b) receptacles containing liquids with closures shall be packed with their closures correctly oriented. The receptacles shall in addition conform to the internal pressure test provisions of 6.1.5.5; (c) receptacles that are liable to break or be punctured easily, such as those made of glass, porcelain or stoneware or of certain plastics materials shall be properly secured. Any leakage of the contents shall not substantially impair the protective properties of the article or of the outer packaging; (d) receptacles within articles containing gases shall meet the requirements of section 4.1.6 and chapter 6.2 as appropriate or be capable of providing an equivalent level of protection as packing instructions P200 or P208; and (e) where there is no receptacle within the article, the article shall fully enclose the dangerous substances and prevent their release under normal conditions of transport. | | |
| <p>(3) Articles shall be packed to prevent movement and inadvertent operation during normal conditions of transport.</p> | | |

| LP905 | PACKING INSTRUCTION | LP905 |
|---|---------------------|-------|
| This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 production runs consisting of not more than 100 cells and batteries and to pre-production prototypes of cells and batteries when these prototypes are transported for testing. | | |
| The following large packagings are authorized for a single battery and for a single item of equipment containing cells or batteries, provided that the general provisions of 4.1.1 and 4.1.3 are met: | | |
| <p>(1) For a single battery:</p> <p>rigid large packagings conforming to the packing group II performance level, made of:</p> <ul style="list-style-type: none"> steel (50A); aluminium (50B); metal other than steel or aluminium (50N); rigid plastics (50H); | | |

natural wood (50C);
plywood (50D);
reconstituted wood (50F); and
rigid fibreboard (50G).

Large packagings shall also meet the following requirements:

- (a) a battery of different size, shape or mass may be packed in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;
- (b) the battery shall be packed in an inner packaging and placed inside the outer packaging;
- (c) the inner packaging shall be completely surrounded by sufficient non-combustible and electrically non-conductive thermal insulation material to protect against a dangerous evolution of heat;
- (d) appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the battery within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and electrically non-conductive; and
- (e) non-combustibility shall be assessed according to a standard recognized in the country where the large packaging is designed or manufactured.

(2) For a single item of equipment:

rigid large packagings conforming to the packing group II performance level, made of:

steel (50A);
aluminium (50B);
metal other than steel or aluminium (50N);
rigid plastics (50H);
natural wood (50C);
plywood (50D);
reconstituted wood (50F); and
rigid fibreboard (50G).

Large packagings shall also meet the following requirements:

- (a) a single item of equipment of different size, shape or mass may be packed in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;
- (b) the equipment shall be constructed or packed in such a manner as to prevent accidental operation during transport;
- (c) appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the equipment within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement, it shall be non-combustible and electrically non-conductive; and
- (d) non-combustibility shall be assessed according to a standard recognized in the country where the large packaging is designed or manufactured.

Additional requirement:

Cells and batteries shall be **protected against** short circuit.

| LP906 | PACKING INSTRUCTION | LP906 |
|---|---------------------|-------|
| <p>This instruction applies to damaged or defective batteries of UN Nos. 3090, 3091, 3480 and 3481 liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport.</p> | | |
| <p>The following large packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>For a single battery and for a single item of equipment containing cells or batteries: Rigid large packagings conforming to the packing group I performance level, made of:</p> <ul style="list-style-type: none"> steel (50A); aluminium (50B); metal other than steel or aluminium (50N); rigid plastics (50H); plywood (50D); and rigid fibreboard (50G). <p>(1) The large packaging shall be capable of meeting the following additional performance requirements in case of rapid disassembly, dangerous reaction, production of a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours of the battery:</p> <ul style="list-style-type: none"> (a) the outside surface temperature of the completed package shall not have a temperature of more than 100 °C. A momentary spike in temperature up to 200°C is acceptable; (b) no flame shall occur outside the package; (c) no projectiles shall exit the package; (d) the structural integrity of the package shall be maintained; and (e) the large packagings shall have a gas management system (e.g. filter system, air circulation, containment for gas, gas tight packaging etc.), as appropriate. <p>(2) The additional large packaging performance requirements shall be verified by a test as specified by the competent authority.^a</p> <p>A verification report shall be available on request. As a minimum requirement, the battery name, the battery number, the mass, type, energy content of the batteries, the large packaging identification and the test data according to the verification method as specified by the competent authority shall be listed in the verification report.</p> <p>(3) When dry ice or liquid nitrogen is used as a coolant, the requirements of section 5.5.3 shall apply. The inner packaging and outer packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures which could result if refrigeration were lost.</p> | | |
| <p>Additional requirement: Batteries shall be protected against short circuit.</p> | | |
| <p>^a <i>The following criteria, as relevant, may be considered to assess the performance of the large packaging:</i></p> <ul style="list-style-type: none"> (a) <i>the assessment shall be done under a quality management system (as described e.g. in section 2.9.4.5) allowing for the traceability of tests results, reference data and characterization models used;</i> (b) <i>the list of hazards expected in case of thermal runaway for the battery type, in the condition it is transported (e.g. usage of an inner packaging, state of charge (SOC), use of sufficient non-combustible, electrically non-conductive and absorbent cushioning material etc.), shall be clearly identified and quantified; the reference list of possible hazards for lithium batteries (rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or</i> | | |

| LP906 | PACKING INSTRUCTION | LP906 |
|--|---------------------|-------|
| <p><i>a dangerous emission of toxic, corrosive or flammable gases or vapours) can be used for this purpose. The quantification of these hazards shall rely on available scientific literature;</i></p> | | |
| <p><i>(c) the mitigating effects of the large packaging shall be identified and characterized, based on the nature of the protections provided and the construction material properties. A list of technical characteristics and drawings shall be used to support this assessment (Density [$\text{kg}\cdot\text{m}^{-3}$], specific heat capacity [$\text{J}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$], heating value [$\text{kJ}\cdot\text{kg}^{-1}$], thermal conductivity [$\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$], melting temperature and flammability temperature [K], heat transfer coefficient of the outer packaging [$\text{W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$], ...);</i></p> <p><i>(d) the test and any supporting calculations shall assess the result of a thermal run-away of the battery inside the large packaging in the normal conditions of transport;</i></p> <p><i>(e) in case the SOC of the battery is not known, the assessment used shall be done with the highest possible SOC corresponding to the battery use conditions;</i></p> <p><i>(f) the surrounding conditions in which the large packaging may be used and transported shall be described (including for possible consequences of gas or smoke emissions on the environment, such as ventilation or other methods) according to the gas management system of the large packaging;</i></p> <p><i>(g) the tests or the model calculation shall consider the worst case scenario for the thermal runaway triggering and propagation inside the battery: this scenario includes the worst possible failure in the normal transport condition, the maximum heat and flame emissions for the possible propagation of the reaction; and</i></p> <p><i>(h) these scenarios shall be assessed over a period long enough to allow all the possible consequences to occur (e.g. 24 hours).</i></p> | | |

4.1.6 Special packing provisions for goods of class 2

4.1.6.1.4 In the third sentence, replace "risk" with "hazard".

4.1.9 Special packing provisions for radioactive material

4.1.9.1 General

4.1.9.1.5 Replace "risk" with "hazard" twice.

Chapter 4.2

Use of portable tanks and multiple-element gas containers (MEGCs)

4.2.0 Transitional provisions

4.2.0.1 In the note, after the definition for IMO type 8 tank, insert IMO type 9 tank definition as follows:

"IMO type 9 tank means a road gas elements vehicle for the transport of compressed gases of class 2 with elements linked to each other by a manifold, permanently attached to a chassis, which is fitted with items of service equipment and structural equipment necessary for the transport of gases. Elements are cylinders, tubes and bundles of cylinders, intended for the transport of gases as defined in 2.2.1.1."

4.2.1 General provisions for the use of portable tanks for the transport of substances of class 1 and classes 3 to 9

4.2.1.19 Additional provisions applicable to the transport of solid substances transported above their melting point

4.2.1.19.1 Replace "risk" with "hazard".

4.2.5.2 Portable tank instructions

T23 In the first box, at the end, add a new sentence to read as follows:

"The formulations listed below may also be transported packed in accordance with packing method OP8 of packing instruction P520 of 4.1.4.1, with the same control and emergency temperatures, if applicable."

In footnote [§], replace "risk" with "hazard".

4.2.5.3 Portable tank special provisions

TP10 Add the following new sentence at the end:

"A portable tank may be offered for transport after the date of expiry of the last lining inspection for a period not to exceed three months beyond the date of expiry of the last testing, after emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling."

4.2.6 Amend title of 4.2.6 to read "Additional provisions for the use of road tank vehicles and road gas elements vehicles"

4.2.6.1 Replace paragraph 4.2.6.1 with the following:

"4.2.6.1 The tank of a road tank vehicle or the elements of a road gas elements vehicle shall be attached to the vehicle during normal operations of filling, discharge and transport. IMO type 4 tanks shall be attached to the chassis when transported on board ships. Road tank vehicles and road gas elements vehicles shall not be filled or discharged while they remain on board. A road tank vehicle or road gas elements vehicle shall be driven on board on its own wheels and be fitted with permanent tie-down attachments for securing on board the ship."

4.2.6.2 Replace the words "Road tank vehicles shall comply" with "Road tank vehicles and road gas elements vehicles shall comply" and add the following new paragraph:

"4.2.6.3 Substances permitted to be transported in IMO type 9 tanks are assigned special provision 974."

PART 5 CONSIGNMENT PROCEDURES

Chapter 5.1 General provisions

5.1.1 Application and general provisions

At the end, add the following note:

"**Note:** In accordance with the GHS, a GHS pictogram not required by this Code should only appear in transport as part of a complete GHS label and not independently (see GHS 1.4.10.4.4)."

5.1.4 Mixed packing

Replace "risk" with "hazard" twice.

5.1.5 General provisions for class 7

5.1.5.4.2 Replace the existing paragraph with the following:

"5.1.5.4.2 The documentation requirements of 5.4.1 and 5.4.5 do not apply to excepted packages of radioactive material of class 7, except that:

- .1 the UN number preceded by the letters "UN" and the name and address of the consignor and the consignee and, if relevant, the identification mark for each competent authority certificate of approval (see 5.4.1.5.7.1.7.) shall be shown on a special transport document such as a bill of lading, air waybill or other similar document complying with the requirements of 5.4.1.2.1 to 5.4.1.2.4; and
- .2 the requirements of 5.4.1.6.2 and, if relevant, those of 5.4.1.5.7.1.7, 5.4.1.5.7.3 and 5.4.1.5.7.4 shall apply."

Chapter 5.2 Marking and labelling of packages including IBCs

5.2.1 Marking of packages including IBCs

5.2.1.3 After "Salvage packagings", add "including large salvage packagings".

5.2.1.7.1 Replace the first four lines with the following:

"Except as provided in 5.2.1.7.2:

- combination packagings having inner packagings containing liquid dangerous goods;
- single packagings fitted with vents;
- cryogenic receptacles intended for the transport of refrigerated liquefied gases; and
- machinery or apparatus containing liquid dangerous goods when it is required to ensure the liquid dangerous goods remain in their intended orientation (see special provision 301 of chapter 3.3),"

5.2.2 Labelling of packages including IBCs

5.2.2.1.1 Replace "risks" with "hazards" and "risk" with "hazard".

5.2.2.1.2 Replace "risk" with "hazard" 6 times.

5.2.2.1.2.1 Delete the entry of "Batteries, wet, non-spillable 2800 8 Class 8⁺" and the corresponding footnote.

- 5.2.2.1.3 Replace "risk" with "hazard" 3 times.
- 5.2.2.1.3.1 Replace "risk" with "hazard" twice.
- 5.2.2.1.4 Replace "risk(s)" with "hazard(s)" 2 times and "risk" with "hazard" twice.
- 5.2.2.1.5 Replace "risks" with "hazards".
- 5.2.2.1.6.3 Replace "risk" with "hazard".
- 5.2.2.1.9 Replace "risk" with "hazard".
- 5.2.2.1.10 Replace "risk" with "hazard" four times.
- 5.2.2.1.11 Replace "risk" with "hazard".
- 5.2.2.1.13 Add a new subsection 5.2.2.1.13 as follows:

"5.2.2.1.13 Labels for articles containing dangerous goods transported as UN Nos. 3537, 3538, 3539, 3540, 3541, 3542, 3543, 3544, 3545, 3546, 3547 and 3548

- .1 Packages containing articles or articles transported unpackaged shall bear labels according to 5.2.2.1.2 reflecting the hazards established according to 2.0.6. If the article contains one or more lithium battery with, for lithium metal batteries, an aggregate lithium content of 2 g or less, and for lithium ion batteries, a Watt-hour rating of 100Wh or less, the lithium battery mark (5.2.1.10.2) shall be affixed to the package or unpackaged article. If the article contains one or more lithium batteries with, for lithium metal batteries, an aggregate lithium content of more than 2 g and for lithium ion batteries, a Watt-hour rating of more than 100Wh, the lithium battery label (5.2.2.2.2 No. 9A) shall be affixed to the package or unpackaged article.
- .2 When it is required to ensure articles containing liquid dangerous goods remain in their intended orientation, orientation marks meeting 5.2.1.7.1 shall be affixed and visible on at least two opposite vertical sides of the package or of the unpackaged article where possible, with the arrows pointing in the correct upright direction."

5.2.2.2 Provisions for labels

5.2.2.2.1.1.2 Replace the first three sentences with the following:

"The label shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The minimum dimensions shall be 100 mm x 100 mm. There shall be a line inside the edge forming the diamond which shall be parallel and approximately 5 mm from the outside of that line to the edge of the label."

5.2.2.2.1.1.3 In the first sentence, after "the dimensions may be reduced," add "proportionally". Delete the second and third sentences ("The line inside the edge shall remain 5 mm to the edge of the label. The minimum width of the line inside the edge shall remain 2 mm.").





5.2.2.2.1.2 In the first sentence, insert "*Gas cylinders – Precautionary labels*" after "ISO 7225:2005" and delete it in the second sentence.

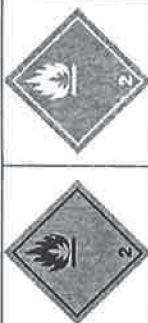
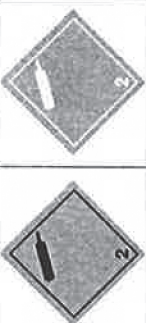
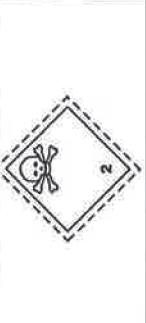
5.2.2.2.1.5 Replace "risk" with "hazard".





5.2.2.2.2 Replace existing 5.2.2.2.2 with the following:





"5.2.2.2.2 Specimen labels




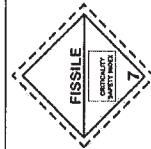
Note: Labels shall satisfy the provisions below and conform, in terms of colour, symbols and general format, to the models shown in 5.2.2.2.2. Corresponding models required for other modes of transport, with minor variations which do not affect the obvious meaning of the label, are also acceptable.




| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|--|-----------------------------|---|------------|---|--|--|
| Class 1: Explosive substances or articles | | | | | | |
| 1 | Divisions 1.1, 1.2, 1.3 | Explosing bomb: black | Orange | 1 (black) |  | ** Place for division – to be left blank if explosive is the subsidiary hazard * Place for compatibility group – to be left blank if explosive is the subsidiary hazard |
| 1.4 | Division 1.4 | 1.4: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm) | Orange | 1 (black) |  | * Place for compatibility group |
| 1.5 | Division 1.5 | 1.5: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm) | Orange | 1 (black) |  | * Place for compatibility group |
| 1.6 | Division 1.6 | 1.6: black Numerals shall be about 30 mm in height and be about 5 mm thick (for a label measuring 100 mm x 100 mm) | Orange | 1 (black) |  | * Place for compatibility group |

| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|-----------------|---|------------------------------|------------|---|---|------|
| Class 2: Gases | | | | | | |
| 2.1 | Class 2.1: Flammable gases (except as provided for in 5.2.2.2.1.6.4) | Flame: black or white | Red | 2 (black or white) |  | - |
| 2.2 | Class 2.2: Non-flammable, non-toxic gases | Gas cylinder: black or white | Green | 2 (black or white) |  | - |
| 2.3 | Class 2.3: Toxic gases | Skull and crossbones: black | White | 2 (black) |  | - |

| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|--|---|--------------------------|-----------------------------------|---|--|------|
| Class 3: Flammable liquids | | | | | | |
| 3 | - | Flame: black or white | Red | 3 (black or white) |  | - |
| Class 4: Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases | | | | | | |
| 4.1 | Class 4.1: Flammable solids, self-reactive substances, solid desensitized explosives and polymerizing substances | Flame: black | White with 7 vertical red stripes | 4 (black) |  | - |
| 4.2 | Class 4.2: Substances liable to spontaneous combustion | Flame: black | Upper half white, lower half red | 4 (black) |  | - |
| 4.3 | Class 4.3: Substances which, in contact with water emit flammable gases | Flame: black or white | Blue | 4 (black or white) |  | - |

| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|--|-------------------------------------|---|---|---|--|--|
| Class 5: Oxidizing substances and organic peroxides | | | | | | |
| 5.1 | Class 5.1: Oxidizing substances | Flame over circle: black | Yellow | 5.1 (black) |  | - |
| 5.2 | Class 5.2: Organic peroxides | Flame: black or white | Upper half red, lower half yellow | 5.2 (black) |  | - |
| Class 6: Toxic substances and infectious substances | | | | | | |
| 6.1 | Class 6.1: Toxic substances | Skull and crossbones: black | White | 6 (black) |  | - |
| 6.2 | Class 6.2: Infectious substances | Three crescents superimposed on a circle: black | White | 6 (black) |  | The lower half of the label may bear the inscriptions: "INFECTIOUS SUBSTANCE" and "In the case of damage or leakage immediately notify Public Health Authority" in black colour |

| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|-------------------------------|-----------------------------|--------------------------|---|---|--|---|
| Class 7: Radioactive material | | | | | | |
| 7A | Category I | Trefoil: black | White | 7 (black) |  | Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." One red vertical bar shall follow the word: "RADIOACTIVE" |
| 7B | Category II | Trefoil: black | Upper half yellow with white border, lower half white | 7 (black) |  | Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." In a black outlined box: "TRANSPORT INDEX"; Two red vertical bars shall follow the word: "RADIOACTIVE" |
| 7C | Category III | Trefoil: black | Upper half yellow with white border, lower half white | 7 (black) |  | Text (mandatory), black in lower half of label: "RADIOACTIVE" "CONTENTS ..." "ACTIVITY ..." In a black outlined box: "TRANSPORT INDEX"; Three red vertical bars shall follow the word: "RADIOACTIVE" |
| 7E | Fissile material | - | White | 7 (black) |  | Text (mandatory): black in upper half of label: "FISSILE"; In a black outlined box in the lower half of label: "CRITICALITY SAFETY INDEX" |

| Label model No. | Class, Division or Category | Symbol and symbol colour | Background | Figure in bottom corner (and figure colour) | Specimen labels | Note |
|---|-----------------------------|--|--|---|--|------|
| Class 8: Corrosive substances | | | | | | |
| 8 | - | Liquids, spilling from two glass vessels and attacking a hand and a metal: black | Upper half white, lower half black with white border | 8 (white) |  | - |
| Class 9: Miscellaneous dangerous substances and articles, including environmentally hazardous substances | | | | | | |
| 9 | - | 7 vertical stripes in upper half: black | White | 9 underlined (black) |  | - |
| 9A | - | 7 vertical stripes in upper half: black; battery group, one broken and emitting flame in lower half: black | White | 9 underlined (black) |  | - |

Chapter 5.3 Placarding and marking of cargo transport units

Amend the title of chapter 5.3 to read "Placarding and marking of cargo transport units and bulk containers".

5.3.1 Placarding

5.3.1.1.1 Replace sub-paragraphs .1 to .3 with the following:

- .1 Enlarged labels (placards) and marks and signs shall be affixed to the exterior surfaces of a cargo transport unit or bulk container to provide a warning that the contents of the unit or bulk container are dangerous goods and present hazards, unless the labels and/or marks affixed to the packages are clearly visible from the exterior of the cargo transport unit or bulk container.
- .2 The methods of placarding and marking as required in 5.3.1.1.4 and 5.3.2 on cargo transport units and bulk containers shall be such that this information will still be identifiable on cargo transport units and bulk containers surviving at least three months' immersion in the sea. In considering suitable marking methods, account shall be taken of the ease with which the surface of the cargo transport unit or bulk container can be marked.
- .3 All placards, orange panels, marks and signs shall be removed from cargo transport units and bulk containers or masked as soon as both the dangerous goods or their residues which led to the application of those placards, orange panels, marks or signs are discharged."

5.3.1.1.2 In the first sentence, replace "risks" with "hazards" and after "transport units" add "and bulk containers". In the second sentence, replace "risk" with "hazard" and after "transport unit" add "and bulk container". In sub-paragraph .2, replace "risk" with "hazard".

5.3.1.1.3 In the first sentence, replace "risks" with "hazards" and "risk" with "hazard". In the second sentence, replace "risk" with "hazard" twice, and after "transport units" add "and bulk containers".

5.3.1.1.4.1 Replace paragraph 5.3.1.4.1 with the following:

- "5.3.1.1.4.1 A cargo transport unit or bulk container containing dangerous goods or residues of dangerous goods shall clearly display placards as follows:
- .1 *a freight container, semi-trailer, a closed or sheeted bulk container or portable tank*: one on each side and one on each end of the unit. Portable tanks having a capacity of not more than 3,000 L may be placarded or, alternatively, may be labelled instead, on only two opposite sides;
 - .2 *a railway wagon*: at least on each side;
 - .3 *a multiple-compartment tank containing more than one dangerous substance or their residues*: along each side at the positions of the relevant compartments. If all compartments are required to display the same placards, these placards need to be displayed only once along each side of the cargo transport unit;

- .4 *a flexible bulk container*: in at least two opposing positions; and
- .5 *any other cargo transport unit*: at least on both sides and on the back of the unit."

5.3.1.2.1 At the end, delete the note.

5.3.2 Marking of cargo transport units

Amend the title of chapter 5.3.2 to read "Marking".

5.3.2.3.1 After "transport units", add "or bulk containers".

5.3.2.3.2 After "cargo transport units", add "and bulk containers".

Chapter 5.4 Documentation

5.4.1 Dangerous goods transport information

5.4.1.4 Information required on the dangerous goods transport document

5.4.1.4.1.4 Replace "risk" with "hazard".

5.4.1.5 Information required in addition to the dangerous goods description

5.4.1.5.3 In the heading and the following sentence, after "salvage packagings", add "including large salvage packagings".

5.4.1.5.5 Replace the paragraph as follows:

"For self-reactive substances, organic peroxides and polymerizing substances which require temperature control during transport, the control and emergency temperatures (see 7.3.7.2) shall be indicated on the dangerous goods transport document, as follows:

"Control temperature: ... °C Emergency temperature: ... °C". "

5.4.1.5.5.1 Replace "risk" with "hazard".

5.4.1.5.9 Explosives

5.4.1.5.9.1 Replace "distinguishing sign for motor vehicles in international traffic" with "distinguishing sign used on vehicles in international road traffic."

5.4.1.5.9.2 Replace "distinguishing sign for motor vehicles in international traffic" with "distinguishing sign used on vehicles in international road traffic."

5.4.1.5.9.3 Replace "distinguishing sign for motor vehicles in international traffic" with "distinguishing sign used on vehicles in international road traffic."

5.4.1.5.15 In the second paragraph, replace "the distinguishing sign for motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic",

and renumber subsequent footnotes accordingly.

5.4.3 Documentation required aboard the ship

Replace the provisions of 5.4.3 with the following:

"5.4.3 Documentation required aboard the ship

- 5.4.3.1 Each ship carrying dangerous goods and marine pollutants shall have a special list, manifest or stowage plan setting out, in accordance with regulation VII/ 4.2 of SOLAS, as amended, and with regulation 4.2 of Annex III of MARPOL, the dangerous goods (except dangerous goods in excepted packages of class 7) and marine pollutants and the location thereof. This special list or manifest shall be based on the documentation and certification required in this Code. It shall contain in addition to the information in 5.4.1.4, 5.4.1.5 and, for UN 3359, in 5.5.2.4.1.1, the stowage location and the total quantity of dangerous goods and marine pollutants. A detailed stowage plan, which identifies by class and sets out the location of all dangerous goods and marine pollutants, may be used in place of such special list or manifest.
- 5.4.3.2 Each ship carrying excepted packages of class 7 shall have a special list, manifest or stowage plan setting out these excepted packages and the location thereof. This special list or manifest shall be based upon the documents listed in 5.1.5.4.2.1.
- 5.4.3.3 A copy of the documents according to 5.4.3.1 and, if applicable, 5.4.3.2 shall be made available before departure to the person or organization designated by the port State authority."

The existing 5.4.3.2 is renumbered to 5.4.3.4 and the existing 5.4.3.2.1 is renumbered to 5.4.3.4.1.

5.4.3.2.1.3 Add the word "Revised" before the words "*Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide)*".

5.4.5 Multimodal Dangerous Goods Form

5.4.5.1 Replace the existing text under 5.4.5.1 as follows:

"5.4.5.1 This form meets the requirements of SOLAS, chapter VII, regulation 4, MARPOL, Annex III, regulation 4 and the provisions of this chapter. The information required by the provisions of this chapter is mandatory; however, the layout of this form is not mandatory.

This form may be used as a combined dangerous goods transport document and container packing certificate for multimodal carriage of dangerous goods."

and delete the existing text under the title of "MULTIMODAL DANGEROUS GOODS FORM".

In the section for "Documentary Aspects of the International Transport of Dangerous Goods Container/Vehicle Packing Certificate", replace the existing sentence:

"If the consignments include goods of class 1, other than division 1.4, the container is structurally serviceable."

with the following:

"If the consignments include goods of class 1, other than division 1.4, the container/vehicle is structurally serviceable.";

replace the existing sentence:

"When solid carbon dioxide (CO₂ – dry ice) is used for cooling purposes, the vehicle or freight container is externally marked in accordance with 5.5.3.6."

with the following:

"When substances presenting a risk of asphyxiation are used for cooling or conditioning purposes (such as dry ice (UN 1845) or nitrogen, refrigerated liquid (UN 1977) or argon, refrigerated liquid (UN 1951)), the container/vehicle is externally marked in accordance with 5.5.3.6"; and

replace the existing sentence:

"When this Dangerous Goods Form is used as a container/vehicle packing certificate only, not a combined document, a dangerous goods Declaration signed by the shipper or supplier must have been issued/received to cover each dangerous goods consignment packed in the container.";

with the following:

"When this Dangerous Goods Form is used as a container/vehicle packing certificate only, not a combined document, a dangerous goods Declaration signed by the shipper or supplier must have been issued/received to cover each dangerous goods consignment packed in the container/vehicle.".

In the note, replace "The container" with "The container/vehicle".

Chapter 5.5 Special provisions

5.5.2.5 Additional provisions

Delete the paragraph 5.5.2.5.1 and renumber the remaining paragraphs accordingly.

PART 6 CONSTRUCTION AND TESTING OF PACKAGINGS, INTERMEDIATE BULK CONTAINERS (IBCs), LARGE PACKAGINGS, PORTABLE TANKS, MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs) AND ROAD TANK VEHICLES

Chapter 6.1 Provisions for the construction and testing of packagings (other than for class 6.2 substances)

In the heading of the chapter, delete "(other than for class 6.2 substances)".

6.1.1 Applicability and general provisions

6.1.1.1 Applicability

6.1.1.1.2 (i) Replace "(subsidiary risks)" with "(subsidiary hazards)" and add a new sub-paragraph .5 to read as follows:

"5 Packagings for class 6.2 infectious substances of Category A."

6.1.3 Marking

6.1.3.1 (f) Replace the words "indicated by the distinguishing sign for motor vehicles in international traffic" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.1.3.8 (h) Replace the words "indicated by the distinguishing sign for motor vehicles in international traffic" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.1.5.7 Test report

6.1.5.7.1 Under sub-paragraph .8, add the following sentence at the end:

"For plastics packagings subject to the internal pressure test in 6.1.5.5, the temperature of the water used."

Chapter 6.2

Provisions for the construction and testing of pressure receptacles, aerosol dispensers, small receptacles containing gas (gas cartridges) and fuel cell cartridges containing liquefied flammable gas

6.2.1 General provisions

6.2.1.6 Periodic inspection and test

6.2.1.6.1.4 Replace the existing note 2 with the following:

Note 2: For seamless steel cylinders and tubes the check of 6.2.1.6.1.2 and hydraulic pressure test of 6.2.1.6.1.4 may be replaced by a procedure conforming to ISO 16148:2016 *Gas cylinders – Refillable seamless steel gas cylinders and tubes – Acoustic emission examination (AT) and follow-up ultrasonic examination (UT) for periodic inspection and testing*"

In note 3, replace the words "The hydraulic pressure test may be replaced" with "The check of 6.2.1.6.1.2 and the hydraulic pressure test of 6.2.1.6.1.4 may be replaced".

6.2.2 Provisions for UN pressure receptacles

6.2.2.1 Design, construction and initial inspection and test

6.2.2.1.1 In the table, for "ISO 11118:1999", in the column "Applicable for manufacture", replace "Until further notice" with "Until 31 December 2020".

In the table, after "ISO 11118:1999", insert a new line to read as follows:

| | | |
|----------------|--|----------------------|
| ISO 11118:2015 | Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods | Until further notice |
|----------------|--|----------------------|

6.2.2.1.2 In the table, for "ISO 11120:1999", in the column "Applicable for manufacture", replace "Until further notice" with "Until 31 December 2022".

In the table, after "ISO 11120:1999", insert a new line to read as follows:

| | | |
|----------------|--|----------------------|
| ISO 11120:2015 | Gas cylinders – Refillable seamless steel tubes of water capacity between 150 l and 3 000 l – Design, construction and testing | Until further notice |
|----------------|--|----------------------|

Insert a new paragraph 6.2.2.1.8 to read as follows:

"6.2.2.1.8 The following standards apply for the design, construction and initial inspection and test of UN pressure drums, except that inspection requirements related to the conformity assessment system and approval shall be in accordance with 6.2.2.5:

| Reference | Title | Applicable for Manufacture |
|------------------|---|----------------------------|
| ISO 21172-1:2015 | Gas cylinders – Welded steel pressure drums up to 3,000 litres capacity for the transport of gases – Design and construction – Part 1: Capacities up to 1,000 litres <i>NOTE: Irrespective of section 6.3.3.4 of this standard, welded steel gas pressure drums with dished ends convex to pressure may be used for the transport of corrosive substances provided all applicable requirements of this Code are met.</i> | Until further notice |
| ISO 4706: 2008 | Gas cylinders – Refillable welded steel cylinders – Test pressure 60 bar and below | Until further notice |
| ISO 18172-1:2007 | Gas cylinders – Refillable welded stainless steel cylinders – Part 1: Test pressure 6 MPa and below | Until further notice |

6.2.2.3 Service equipment

In the first table, for "ISO 13340:2001", in the column "Applicable for manufacture", replace "Until further notice" with "Until 31 December 2020".

In the first table, insert the following rows at the end:

| | | |
|----------------|---|----------------------|
| ISO 14246:2014 | Gas cylinders – Cylinder valves – Manufacturing tests and examination | Until further notice |
|----------------|---|----------------------|

| | | |
|----------------|---|----------------------|
| ISO 17871:2015 | Gas cylinders – Quick-release cylinders valves – Specification and type testing | Until further notice |
|----------------|---|----------------------|

6.2.2.4 Periodic inspection and test

Amend the end of the introductory sentence to read "...testing of UN cylinders and their closures:". Move the last row of the table into a new table, after the existing one, with the same headings and a new introductory sentence to read "The following standard applies to the periodic inspection and testing of UN metal hydride storage systems:"

In the table, for "ISO 11623:2002", in column "Applicable", replace "Until further notice" with "Until 31 December 2020". After the row for "ISO 11623:2002", insert the following new row:

| | | |
|----------------|--|----------------------|
| ISO 11623:2015 | Gas cylinders – Composite construction – Periodic inspection and testing | Until further notice |
|----------------|--|----------------------|

At the end of the first table, insert the following row:

| | | |
|----------------|--|----------------------|
| ISO 22434:2006 | Transportable gas cylinders – Inspection and maintenance of cylinder valves <i>NOTE: These requirements may be met at times other than at the periodic inspection and test of UN cylinders.</i> | Until further notice |
|----------------|--|----------------------|

6.2.2.7 Marking of refillable UN pressure receptacles

6.2.2.7.2 (c) Replace "indicated by the distinguishing signs of motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

6.2.2.7.4 Under sub-paragraph (m), insert a new note to read as follows:

Note: Information on marks that may be used for identifying threads for cylinders is given in ISO/TR 11364, *Gas cylinders – Compilation of national and international valve stem/gas cylinder neck threads and their identification and marking system.*

6.2.2.7.4 (n) Replace "indicated by the distinguishing signs of motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

6.2.2.7.7 (a) Replace "indicated by the distinguishing signs of motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

6.2.2.9 Marking of UN metal hydride storage systems

6.2.2.9.2 In (c) and (h), replace "indicated by the distinguishing signs of motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

6.2.2.9.4 (a) Replace "indicated by the distinguishing signs of motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

Chapter 6.3
Provisions for the construction and testing of packagings
for class 6.2 infectious substances of category A

6.3.4 Marking

6.3.4.2 (e) Replace "indicated by the distinguishing sign for motor vehicles in international traffic" with "the distinguishing sign used on vehicles in international road traffic".

Chapter 6.4
Provisions for the construction, testing and approval
of packages and radioactive material

6.4.23 Applications for approval and approvals for radioactive material transport

6.4.23.11 In paragraph (a), replace "the international vehicle registration identification code" with "the distinguishing sign used on vehicles in international road traffic".

Chapter 6.5
Provisions for the construction and testing
of intermediate bulk containers (IBCs)

6.5.2 Marking

6.5.2.1 Primary marking

6.5.2.1.1.5 Replace "indicated by the distinguishing sign for motor vehicles in international traffic" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.5.6.9 Drop test

6.5.6.9.3 Amend the last paragraph to read as follows:

"The same IBC or a different IBC of the same design may be used for each drop."

6.5.6.14 Test report

6.5.6.14.1.8 At the end of the sub-paragraph, add the following sentence: "For rigid plastics and composite IBCs subject to the hydraulic pressure test in 6.5.6.8, the temperature of the water used:".

Chapter 6.6
Provisions for the construction and testing
of large packagings

6.6.3 Marking

6.6.3.1 Primary marking

6.6.3.1 (e) Replace indicated by the distinguishing sign for motor vehicles in international traffic" with "indicated by the distinguishing sign used on vehicles in international road traffic."

Chapter 6.7
Provisions for the design, construction, inspection and testing of portable tanks
and multiple-element gas containers (MEGCs)

6.7.2 Provisions for the design, construction, inspection and testing of portable tanks intended for the transport of substances of class 1 and classes 3 to 9

6.7.2.18.1 In the fifth sentence, replace "i.e. the distinguishing sign for use in international traffic as prescribed by the Convention on Road Traffic, Vienna 1968" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.7.3.14.1 In the fifth sentence, replace "i.e. the distinguishing sign for use in international traffic as prescribed by the Convention on Road Traffic, Vienna 1968" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.7.4.13.1 In the fifth sentence, replace "i.e. the distinguishing sign for use in international traffic as prescribed by the Convention on Road Traffic, Vienna 1968" with "indicated by the distinguishing sign used on vehicles in international road traffic".

6.7.5.11.1 In the fifth sentence, replace "i.e. the distinguishing sign for use in international traffic as prescribed by the Convention on Road Traffic, Vienna 1968" with "indicated by the distinguishing sign used on vehicles in international road traffic".

Chapter 6.8
Provisions for road tank vehicles

Amend title of chapter 6.8 to read "Provisions for road tank vehicles and road gas elements vehicles".

6.8.1.1 Amend provision 6.8.1.1 to read as follows:

"6.8.1.1 Tank and elements support frameworks, fitting and tie-down attachments*

6.8.1.1.1 Road tank vehicles and road gas elements vehicles shall be designed and manufactured with supports to provide a secure base during transport and with suitable tie-down attachments. The tie-down attachments shall be located on the tank or elements support, or vehicle structure in such a manner that the suspension system is not left in free play."

6.8.3 Amend the title of 6.8.3 to read "Road tank vehicles and road gas elements vehicles for short international voyages"

6.8.3.4 Add a new provision 6.8.3.4 as follows:

"6.8.3.4 Road gas elements vehicles for compressed gases of class 2 (IMO Type 9)

6.8.3.4.1 General provisions

6.8.3.4.1.1 An IMO type 9 tank shall comply with the provisions of 6.8.3.4.2 and 6.8.3.4.3.

6.8.3.4.1.2 An IMO type 9 tank shall not be offered for transport by sea in a condition that would lead to venting during the voyage under normal conditions of transport.

6.8.3.4.2 Design and construction

6.8.3.4.2.1 An IMO type 9 tank shall comply with the provisions of 6.7.5 with the exception that the horizontal forces at right angles to the direction of travel shall be the MPGM multiplied by the acceleration due to gravity (g)*; and that the inspection and testing shall be in accordance with the competent authority where the road gas elements vehicle is approved.

* For calculation purposes, $g = 9.81 \text{ m/s}^2$.

6.8.3.4.2.2 If the landing legs of an IMO type 9 tank are to be used as support structures, the loads specified in 6.7.5.2.8 shall be taken into account in their design and method of attachment. Any bending stress induced in the shell or the elements as a result of this manner of support shall also be included in the design calculations.

6.8.3.4.2.3 Securing arrangements (tie-down attachments) shall be fitted to the road gas elements vehicle support structure and the towing vehicle of an IMO type 9 tank. Semi-trailers unaccompanied by a towing vehicle shall be accepted for shipment only if the trailer supports and the securing arrangements and the position of stowage are agreed by the competent authority for sea transport, unless the approved Cargo Securing Manual includes this arrangement.

6.8.3.4.3 Approval, testing and marking

6.8.3.4.3.1 IMO type 9 tanks shall be approved for road transport by the competent authority for road transport.

6.8.3.4.3.2 The competent authority for sea transport shall issue additionally, in respect of an IMO type 9 tank, a certificate attesting compliance with the relevant design, construction and equipment provisions of this chapter and, where appropriate, the special provisions for the gases listed in the Dangerous Goods List. The certificate shall list the gases allowed to be transported.

6.8.3.4.3.3 An IMO type 9 tank shall be periodically tested and inspected in accordance with the provisions of the competent authority for road transport where the road gas elements vehicle is approved.

6.8.3.4.3.4 An IMO type 9 tank shall be marked in accordance with 6.7.5.13, as applicable. However, where the marking required by the competent authority for road transport is substantially in agreement with that of 6.7.5.13.1, it will

be sufficient to endorse the metal plate attached to the IMO type 9 tank with "IMO 9".

"

Chapter 6.9
Provisions for the design, construction, inspection
and testing of bulk containers

6.9.5 Requirements for the design, construction, inspection and testing of flexible bulk containers BK3

6.9.5.5 Marking

6.9.5.5.1 (e) Replace "indicated by the distinguishing signs for motor vehicles in international traffic" with "the distinguishing signs used on vehicles in international road traffic".

PART 7
PROVISIONS CONCERNING TRANSPORT OPERATIONS

Chapter 7.1
General stowage provisions

7.1.3 Stowage categories

7.1.3.1 Stowage categories for class 1

In the 3rd column for Stowage category 02, Stowage category 03, Stowage category 04 and Stowage category 05, replace "7.1.4.4.5" with "7.1.4.4.6", respectively.

7.1.4 Special stowage provisions

Re-number paragraphs 7.1.4.4.5 and 7.1.4.4.5.1 as 7.1.4.4.6 and 7.1.4.4.6.1, respectively. Re-number paragraph 7.1.4.4.6 as 7.1.4.4.7.

Add a new paragraph 7.1.4.4.5 as follows:

"7.1.4.4.5 Transport to or from offshore oil platforms, mobile offshore drilling units and other offshore installations

Notwithstanding the stowage category indicated in column 16a of the Dangerous Goods List, UN 0124 JET PERFORATING GUNS, CHARGED, and UN 0494 JET PERFORATING GUNS, CHARGED, transported to or from offshore oil platforms, mobile offshore drilling units and other offshore installations may be stowed on deck in offshore well tool pallets, cradles or baskets provided that:

- .1 initiation devices shall be segregated from each other and from any jet perforating guns in accordance with the provisions of 7.2.7, and from any other dangerous goods in accordance with the provisions of 7.2.4 and 7.6.3.2, unless otherwise approved by the competent authority;
- .2 jet perforating guns shall be securely held in place during transport;

- .3 each shaped charge affixed to any gun shall not contain more than 112 g of explosives;
- .4 each shaped charge, if not completely enclosed in glass or metal, shall be fully protected by a metal cover following installation in the gun;
- .5 both ends of jet perforating guns shall be protected by means of steel end caps allowing for pressure release in the event of fire;
- .6 the total explosive content shall not exceed 95 kg per well tool pallet, cradle or basket; and
- .7 where more than one well tool pallet, cradle or basket is stowed "on deck", a minimum horizontal distance of 3 m shall be observed between them."

7.1.4.6 After 7.1.4.6.1, insert a new provision of 7.1.4.7 as follows:

"7.1.4.7 Stowage of stabilized dangerous goods

Substances, for which the word "STABILIZED" is added as part of the proper shipping name of the substances in accordance with 3.1.2.6, Stowage Category D and SW1 shall apply."

7.1.5 Stowage codes

Add a new SW30 as follows:

"SW30 For special stowage provisions, see 7.1.4.4.5."

**Chapter 7.2
General segregation provisions**

7.2.2 Definitions

7.2.2.2 In sub-paragraph .2, replace "risk" with "hazard".

7.2.3 Segregation provisions

7.2.3.3 Replace "risk" with "hazard", twice.

7.2.3.4 Replace "risk" with "hazard", replace "risks" with "hazards", and replace the sentence "segregation as for class 5.1, but "separated from" class 7." with "SG6 (segregation as for class 5.1), and SG19 (stow "separated from" class 7).".

7.2.4 Segregation table

7.2.4 In the third paragraph, replace "risk" with "hazard".

7.2.5 Segregation groups

7.2.5.1 Amend existing paragraph 7.2.5.1 to read as follows:

"7.2.5.1 For the purpose of segregation, dangerous goods having certain similar chemical properties have been grouped together in segregation groups as

listed in 7.2.5.2. The entries allocated to these segregation groups are listed in 3.1.4.4 and are identified by a segregation group code in column 16b of the Dangerous Goods List."

7.2.5.2 Replace paragraph 7.2.5.2 with the following:

"7.2.5.2 The segregation group codes given in column 16b of the Dangerous Goods List are as specified below:

| Segregation Group Code | Segregation Group | Description |
|------------------------|---------------------|---|
| SGG1 | 1 | acids |
| SGG1a | 1, entries marked * | * identifies strong acids |
| SGG2 | 2 | ammonium compounds |
| SGG3 | 3 | bromates |
| SGG4 | 4 | chlorates |
| SGG5 | 5 | chlorites |
| SGG6 | 6 | cyanides |
| SGG7 | 7 | heavy metals and their salts (including their organometallic compounds) |
| SGG8 | 8 | hypochlorites |
| SGG9 | 9 | lead and its compounds |
| SGG10 | 10 | liquid halogenated hydrocarbons |
| SGG11 | 11 | mercury and mercury compounds |
| SGG12 | 12 | nitrites and their mixtures |
| SGG13 | 13 | perchlorates |
| SGG14 | 14 | permanganates |
| SGG15 | 15 | powdered metals |
| SGG16 | 16 | peroxides |
| SGG17 | 17 | azides |
| SGG18 | 18 | alkalis |

7.2.6 Special segregation provisions and exemptions

7.2.6.1 Replace "risk" with "hazard".

7.2.6.2 Under "For example", replace the sentence "segregation as for class 3, but "away from" classes 4.1 and 8." with "SG5 ("segregation as for class 3)", "SG8 (stow "away from" class 4.1)" and "SG13 (stow "away from class 8)"".

7.2.6.3 In provision .2, replace the last sentence to read "Substances within the same table 7.2.6.3.1, 7.2.6.3.2 or 7.2.6.3.3 are compatible with one another.". After .2, add a new provision .3 as follows:

".3 to substances within the table 7.2.6.3.4, except that due regard shall continue to be taken of the dangerous reactions specified in the provisions of 7.2.6.1.1 to 7.2.6.1.4."

In tables 7.2.6.3.1, 7.2.6.3.2 and 7.2.6.3.3, in the title of column 4, replace "subsidiary risk(s)" with "subsidiary hazard(s)", respectively.

7.2.6.3.3 After the existing table 7.2.6.3.3, insert a new table 7.2.6.3.4 as follows:

"Table 7.2.6.3.4

| UN* | Proper Shipping Name | Class | Subsidiary Hazard(s) | Packing group |
|------|--|-------|----------------------|---------------|
| 3101 | ORGANIC PEROXIDE TYPE B, LIQUID | 5.2 | 1 and/or 8 | - |
| 3102 | ORGANIC PEROXIDE TYPE B, SOLID | 5.2 | 1 and/or 8 | - |
| 3103 | ORGANIC PEROXIDE TYPE C, LIQUID | 5.2 | None or 8 | - |
| 3104 | ORGANIC PEROXIDE TYPE C, SOLID | 5.2 | None or 8 | - |
| 3105 | ORGANIC PEROXIDE TYPE D, LIQUID | 5.2 | None or 8 | - |
| 3106 | ORGANIC PEROXIDE TYPE D, SOLID | 5.2 | None or 8 | - |
| 3107 | ORGANIC PEROXIDE TYPE E, LIQUID | 5.2 | None or 8 | - |
| 3108 | ORGANIC PEROXIDE TYPE E, SOLID | 5.2 | None or 8 | - |
| 3109 | ORGANIC PEROXIDE TYPE F, LIQUID | 5.2 | None or 8 | - |
| 3110 | ORGANIC PEROXIDE TYPE F, SOLID | 5.2 | None or 8 | - |
| 3111 | ORGANIC PEROXIDE TYPE B, LIQUID, TEMPERATURE CONTROLLED | 5.2 | 1 and/or 8 | - |
| 3112 | ORGANIC PEROXIDE TYPE B, SOLID, TEMPERATURE CONTROLLED | 5.2 | 1 and/or 8 | - |
| 3113 | ORGANIC PEROXIDE TYPE C, LIQUID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3114 | ORGANIC PEROXIDE TYPE C, SOLID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3115 | ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3116 | ORGANIC PEROXIDE TYPE D, SOLID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3117 | ORGANIC PEROXIDE TYPE E, LIQUID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3118 | ORGANIC PEROXIDE TYPE E, SOLID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3119 | ORGANIC PEROXIDE TYPE F, LIQUID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 3120 | ORGANIC PEROXIDE TYPE F, SOLID, TEMPERATURE CONTROLLED | 5.2 | None or 8 | - |
| 1325 | FLAMMABLE SOLID, ORGANIC, N.O.S. with a technical name as listed in 2.5.3.2.4 under "exempt" | 4.1 | None | II, III |

* Except for substances with the technical name PEROXYACETIC ACID

7.2.6.4 Renumber the exiting paragraph 7.2.6.4 as new paragraph 7.2.6.5. Insert a new paragraph 7.2.6.4 as follows:

"7.2.6.4 Notwithstanding table 7.2.6.3.2.4, due regard shall continue to be taken of the dangerous reactions specified in the provisions of 7.2.6.1.1 to 7.2.6.1.4."

7.2.8 Segregation codes

7.2.8 In the entry for SG1, replace the description as follows:

"For packages carrying a subsidiary hazard label of class 1, segregation as for class 1, division 1.3. However, in relation to goods of class 1, segregation as for the primary hazard."

and amend the description of the following SG codes in 7.2.8 to include the corresponding SGG code for the segregation groups as follows:

| Segregation Code | Description |
|------------------|-----------------------------------|
| SG20 | Stow "away from" SGG1 – acids. |
| SG21 | Stow "away from" SGG18 – alkalis. |
| SG24 | Stow "away from" SGG17 – azides. |

| Segregation Code | Description |
|------------------|--|
| SG28 | Stow "away from" SGG2 – ammonium compounds and explosives containing ammonium compounds or salts. |
| SG30 | Stow "away from" SGG7 – heavy metals and their salts. |
| SG31 | Stow "away from" SGG9 – lead and its compounds. |
| SG32 | Stow "away from" SGG10 – liquid halogenated hydrocarbons. |
| SG33 | Stow "away from" SGG15 – powdered metals. |
| SG34 | When containing ammonium compounds, "away from" SGG4 – chlorates or SGG13 – perchlorates and explosives containing chlorates or perchlorates. |
| SG35 | Stow "separated from" SGG1 – acids. |
| SG36 | Stow "separated from" SGG18 – alkalis. |
| SG38 | Stow "separated from" SGG2 – ammonium compounds. |
| SG39 | Stow "separated from" SGG2 – ammonium compounds other than AMMONIUM PERSULPHATE (UN 1444). |
| SG40 | Stow "separated from" SGG2 – ammonium compounds other than mixtures of ammonium persulphates and/or potassium persulphates and/or sodium persulphates. |
| SG42 | Stow "separated from" SGG3 – bromates. |
| SG45 | Stow "separated from" SGG4 – chlorates. |
| SG47 | Stow "separated from" SGG5 – chlorites. |
| SG49 | Stow "separated from" SGG6 – cyanides. |
| SG51 | Stow "separated from" SGG8 – hypochlorites. |
| SG54 | Stow "separated from" SGG11 – mercury and mercury compounds. |
| SG56 | Stow "separated from" SGG12 – nitrites. |
| SG58 | Stow "separated from" SGG13 – perchlorates. |
| SG59 | Stow "separated from" SGG14 – permanganates. |
| SG60 | Stow "separated from" SGG16 – peroxides. |
| SG61 | Stow "separated from" SGG15 – powdered metals. |
| SG70 | For arsenic sulphides, "separated from" SGG1 – acids. |
| SG75 | Stow "separated from" SGG1a – strong acids. |

Add three new segregation codes as follows:

| | |
|------|---|
| SG76 | Segregation as for class 7. |
| SG77 | Segregation as for class 8. However, in relation to class 7, no segregation needs to be applied. |
| SG78 | Stow "separated longitudinally by an intervening complete compartment or hold from" division 1.1, 1.2, and 1.5. |

Annex

In the examples of the Annex, paragraphs 1.1, 3.2 and 4.2, replace "risk" with "hazard".

Chapter 7.3
Consigning operations concerning the packing and
use of cargo transport units (CTUs) and related provisions

7.3.4 Segregation provisions within cargo transport units

7.3.4.2.1 Replace "risk" with "hazard".

7.3.4.2.2.3 Replace "risk" with "hazard".

7.3.7 Cargo transport units under temperature control

Replace the existing provisions of 7.3.7 with the following:

"7.3.7 Cargo transport units under temperature control

7.3.7.1 Preamble

7.3.7.1.1 If the temperature of certain substances (such as organic peroxides and polymerizing or self-reactive substances) exceeds a value which is typical of the substance as packaged for transport, a self-accelerating decomposition or polymerization possibly of explosive violence, may result. To prevent such decomposition or polymerization, it is necessary to control the temperature of such substances during transport. Other substances not requiring temperature control for safety reasons may be transported under controlled temperature conditions for commercial reasons.

7.3.7.1.2 The provisions for the temperature control of certain specified substances are based on the assumption that the temperature in the immediate surroundings of the cargo does not exceed 55°C during transport and attains this value for a relatively short time only during each period of 24 h.

7.3.7.2 General provisions

7.3.7.2.1 Where a number of packages containing self-reactive substances, organic peroxides and polymerizing substances are loaded in a closed cargo transport unit, the total quantity of substance, the type and number of packages and the stacking arrangement shall not create an explosion hazard.

7.3.7.2.2 These provisions apply to certain self-reactive substances when required by 2.4.2.3.4, and certain organic peroxides when required by 2.5.3.4.1 and certain polymerizing substances when required by 2.4.2.5.2 or special provision 386 of chapter 3.3 which may only be transported under conditions where the temperature is controlled.

7.3.7.2.3 These provisions also apply to the transport of substances for which:

- .1 the proper shipping name as indicated in column 2 of the Dangerous Goods List of chapter 3.2 or according to 3.1.2.6 contains the word "STABILIZED"; and
- .2 the self-accelerating decomposition temperature (SADT) or the self-accelerating polymerization temperature (SAPT)¹ determined

¹ The SAPT shall be determined in accordance with the test procedures established for the SADT for self-reactive substances in accordance with part II, section 28 of the Manual of Tests and Criteria.

for the substance (with or without chemical stabilization) as offered for transport is:

- .1 50°C or less for single packagings and IBCs; or
- .2 45°C or less for portable tanks.

When chemical inhibition is not used to stabilize a reactive substance which may generate dangerous amounts of heat and gas, or vapour, under normal transport conditions, these substances need to be transported under temperature control. These provisions do not apply to substances which are stabilized by the addition of chemical inhibitors such that the SADT or the SAPT is greater than that prescribed in paragraphs 7.3.7.2.3.2.1 or 7.3.7.2.3.2.2.

7.3.7.2.4 In addition, if a self-reactive substance or organic peroxide or a substance the proper shipping name of which contains the word "STABILIZED" and which is not normally required to be transported under temperature control is transported under conditions where the temperature may exceed 55°C, it may require temperature control.

7.3.7.2.5 The "control temperature" is the maximum temperature at which the substance can be safely transported. In the event of loss of temperature control, it may be necessary to implement emergency procedures. The "emergency temperature" is the temperature at which such procedures shall be implemented.

7.3.7.2.6 Derivation of control and emergency temperatures

| Type of receptacle | SADT ^a /SAPT ^a | Control temperature | Emergency temperature |
|----------------------------|--------------------------------------|----------------------|-----------------------|
| Single packagings and IBCs | 20°C or less | 20°C below SADT/SAPT | 10°C below SADT/SAPT |
| | over 20°C to 35°C | 15°C below SADT/SAPT | 10°C below SADT/SAPT |
| | over 35°C | 10°C below SADT/SAPT | 5°C below SADT/SAPT |
| Portable tanks | ≤ 45°C | 10°C below SADT/SAPT | 5°C below SADT/SAPT |

^a i.e. the SADT/SAPT of the substance as packed for transport.

7.3.7.2.7 The control and emergency temperatures are derived using the table in 7.3.7.2.6 from the self-accelerating decomposition temperature (SADT) or from the self-accelerating polymerization temperature (SAPT) which are defined as the lowest temperatures at which self-accelerating decomposition or self-accelerating polymerization may occur with a substance in the packaging, IBC or portable tank as used in transport. An SADT or SAPT shall be determined in order to decide if a substance shall be subjected to temperature control during transport. Provisions for the determination of the SADT and SAPT are given in 2.4.2.3.4, 2.5.3.4.2 and 2.4.2.5.2 for self-reactive substances, organic peroxides and polymerizing substances and mixtures, respectively.

7.3.7.2.8 Control and emergency temperatures, where appropriate, are provided for currently assigned self-reactive substances in 2.4.2.3.2.3 and for currently assigned organic peroxide formulations in 2.5.3.2.4.

7.3.7.2.9 The actual transport temperature may be lower than the control temperature but shall be selected so as to avoid dangerous separation of phases.

7.3.7.3 Transport under temperature control

7.3.7.3.1 Prior to the use of cargo transport unit, the refrigeration system shall be subjected to a thorough inspection and a test to ensure that all parts are functioning properly.

7.3.7.3.2 Refrigerant gas shall only be replaced in accordance with the manufacturer's operating instructions for the refrigeration system. Prior to filling replacement refrigerant gas, a certificate of analysis from the supplier shall be obtained and checked to confirm that the gas meets refrigeration system specifications. In addition, if concerns about the integrity of the supplier and/or the refrigerant gas supply chain give rise to suspicion of contamination of the gas, the replacement refrigerant gas shall be checked for possible contamination prior to use. If the refrigerant gas is found to be contaminated, it shall not be used, the cylinder shall be plainly marked "CONTAMINATED", the cylinder shall be sealed and sent for recycling or disposal, and notification shall be given to the refrigerant gas supplier and authorized distributor and competent authority(ies) of the countries in which the supplier and distributor reside, as appropriate. The date of last refrigerant replacement shall be included in the maintenance record of the refrigeration system.

Note: Contamination can be checked by using flame halide lamp tests, gas sniffer tube tests or gas chromatography. Replacement refrigerant gas cylinders may be marked with the test result and the date of testing.

7.3.7.3.3 When a cargo transport unit is to be filled with packages containing substances having different control temperatures, all packages shall be pre-cooled to avoid exceeding the lowest control temperature.

7.3.7.3.3.1 In the event that non-temperature-controlled substances are transported in the same cargo transport unit as temperature controlled substances, the package(s) containing substances that require refrigeration shall be stowed in such a way as to be readily accessible from the door(s) of the cargo transport unit.

7.3.7.3.3.2 If substances with different control temperatures are loaded in the cargo transport unit, the substances with the lowest control temperature shall be stowed in the most readily accessible position from the doors of the cargo transport unit.

7.3.7.3.3.3 The door(s) shall be capable of being opened readily in case of emergency so that the package(s) can be removed. The carrier shall be informed about the location of the different substances within the unit. The cargo shall be secured to prevent packages from falling when the door(s) is (are) opened. The packages shall be securely stowed so as to allow for adequate air circulation throughout the cargo.

7.3.7.3.4 The master shall be provided with operating instructions for the refrigeration system, procedures to be followed in the event of loss of control and instructions for regular monitoring of operating temperatures. Spare parts shall be carried for the systems described in 7.3.7.4.2.3, 7.3.7.4.2.4

and 7.3.7.4.2.5 so that they are available for emergency use should the refrigeration system malfunction during transport.

7.3.7.3.5 In cases where it may not be possible to carry specific substances according to the general provisions, full details of the proposed method of shipment shall be submitted to the competent authority concerned for approval.

7.3.7.4 Methods of temperature control

7.3.7.4.1 The suitability of a particular means of temperature control for transport depends on a number of factors. Among those to be considered are:

- .1 the control temperature(s) of the substance(s) to be transported;
- .2 the difference between the control temperature and the anticipated ambient temperature conditions;
- .3 the effectiveness of the thermal insulation of the cargo transport unit. The overall heat transfer coefficient shall not be more than 0.4 W/(m²·K) for cargo transport units and 0.6 W/(m²·K) for tanks; and
- .4 the duration of the voyage.

7.3.7.4.2 Suitable methods for preventing the control temperature being exceeded are, in order of increasing capability:

- .1 thermal insulation, provided that the initial temperature of the substance is sufficiently below the control temperature;
- .2 thermal insulation with a cooling method, provided that:
 - an adequate quantity of non-flammable coolant (such as liquid nitrogen or solid carbon dioxide), allowing a reasonable margin for delay, is carried;
 - liquid oxygen or air is not used as a coolant;
 - there is a uniform cooling effect even when most of the coolant has been consumed; and
 - the need to ventilate the cargo transport unit before entering is clearly indicated by a warning on the door(s) (see 5.5.3);
- .3 single mechanical refrigeration, provided that the unit is thermally insulated and, for substances with a flashpoint lower than the sum of the emergency temperature plus 5°C, explosion proof electrical fittings are used within the cooling compartment to prevent ignition of flammable vapours from the substances;
- .4 combined mechanical refrigeration system and cooling method, provided that:
 - the two systems are independent of one another; and
 - the provisions of 7.3.7.4.2.2 and 7.3.7.4.2.3 are met;

- .5 dual mechanical refrigeration system, provided that:
- apart from the integral power supply unit, the two systems are independent of one another;
 - each system alone is capable of maintaining adequate temperature control; and
 - for substances with a flashpoint lower than the sum of the emergency temperature plus 5°C, explosion proof electrical fittings are used within the coolant compartment to prevent ignition of flammable vapours from the substances.

7.3.7.4.3 The refrigeration equipment and its controls shall be readily and safely accessible and all electrical connections weatherproof. Inside the cargo transport unit, the temperature shall be measured continuously. The measurement shall be taken in the air space of the unit, using two measuring devices independent of each other. The type and place of the measuring devices shall be selected so that their results are representative of the actual temperature in the cargo. At least one of the two measurements shall be recorded in such a manner that temperature changes are easily detectable. The temperature shall be checked every four to six hours and logged.

7.3.7.4.4 If substances are transported with a control temperature less than +25°C, the cargo transport unit shall be equipped with a visible and audible alarm effectively set at no higher than the control temperature. The alarms shall work independently from the power supply of the refrigeration system.

7.3.7.4.5 If an electrical supply is necessary for the cargo transport unit to operate the refrigeration or heating equipment, it shall be ensured that the correct connecting plugs are fitted. For under deck stowage, plugs shall, as a minimum, be of an IP 55 enclosure in accordance with IEC Publication 60529, with the specification for electrical equipment of temperature class T4 and explosion group IIB. However, when stowed on deck, these plugs shall be of an IP 56 enclosure in accordance with IEC Publication 60529.

7.3.7.5 Special provisions for self-reactive substances, organic peroxides and polymerizing substances

7.3.7.5.1 For self-reactive substances (class 4.1) identified by UN Nos. 3231 and 3232 and organic peroxides (class 5.2) identified by UN Nos. 3111 and 3112, one of the following methods of temperature control described in 7.3.7.4.2 shall be used:

- .1 the methods referred to under 7.3.7.4.2.4 or 7.3.7.4.2.5; or
- .2 the method referred to under 7.3.7.4.2.3 when the maximum ambient temperature to be expected during transport is at least 10°C below the control temperature.

7.3.7.5.2 For self-reactive substances (class 4.1) identified by UN Nos. 3233 to 3240, organic peroxides (class 5.2) identified by UN Nos. 3113 to 3120 and polymerizing substances identified by UN Nos. 3533 and 3534 or for those substances where the words "TEMPERATURE CONTROLLED" are added as part of the proper shipping name in accordance with 3.1.2.6.2, one of the following methods shall be used:

- .1 the methods referred to under 7.3.7.4.2.4 or 7.3.7.4.2.5;
- .2 the method referred to under 7.3.7.4.2.3 when the maximum ambient temperature to be expected during transport does not exceed the control temperature by more than 10°C; or
- .3 for short international voyages only (see 1.2.1), the methods referred to under 7.3.7.4.2.1 and 7.3.7.4.2.2 when the maximum ambient temperature to be expected during transport is at least 10°C below the control temperature.

7.3.7.6 Special provisions for flammable gases or liquids having a flashpoint less than 23°C c.c. transported under temperature control

7.3.7.6.1 When flammable gases or liquids having a flashpoint less than 23°C c.c. are packed or loaded in a cargo transport unit equipped with a refrigerating or heating system, the cooling or heating equipment shall comply with 7.3.7.4.

7.3.7.6.2 When flammable liquids having a flashpoint less than 23°C c.c. and not requiring temperature control for safety reasons are transported under temperature control conditions for commercial reasons, explosion proof electrical fittings are required except when the substances are pre-cooled to and transported at a control temperature of at least 10°C below the flashpoint. In case of failure of a non-explosion proof refrigerating system, the system shall be disconnected from the power supply. It shall not be reconnected if the temperature has risen to a temperature less than 10°C below the flashpoint.

7.3.7.6.3 When flammable gases not requiring temperature control for safety reasons are transported under temperature control conditions for commercial reasons, explosion proof electrical fittings are required.

7.3.7.7 Special provisions for vehicles transported on ships

Insulated, refrigerated and mechanically refrigerated vehicles shall conform to the provisions of 7.3.7.4 and 7.3.7.5 as appropriate. In addition, the refrigerating appliance of a mechanically refrigerated vehicle shall be capable of operating independently of the engine used to propel the vehicle.

7.3.7.8 Approval

The competent authority may approve that less stringent means of temperature control may be used or that artificial refrigeration may be dispensed with under conditions of transport such as short international voyages or low ambient temperatures.

”

Chapter 7.4

Stowage and segregation on containerships

7.4.2 Stowage requirements

7.4.2.4.1 Replace "risk" with "hazard", twice.

7.4.2.3.2 Replace the existing paragraph with the following:

"7.4.2.3.2 A container with flammable gases or flammable liquids having a flashpoint of less than 23°C c.c. transported on deck shall be stowed at least 2.4 m horizontally and projected vertically away from any potential source of ignition."

Chapter 7.6
Stowage and segregation on general cargo ships

7.6.2 Stowage and handling provisions

7.6.2.3.1 Replace "risk" with "hazard", twice.

7.6.3 Segregation provisions

7.6.3.1.2 Replace "risk" with "hazard".

Chapter 7.7
Shipborne barges on barge-carrying ships

7.7.3 Barge loading

7.7.3.6 Replace "risk" with "hazard".

7.7.3.7.3 Replace "risk" with "hazard".

Chapter 7.8
Special requirements in the event of an incident and fire precautions involving dangerous goods

7.8.1 General

7.8.1.1 Add "*Revised*" before "*Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide)*".

7.8.4 Special provisions for incidents involving radioactive material

7.8.4.4 Add "*Revised*" before "*Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide)*".

Chapter 7.9
Exemptions, approvals and certificates

7.9.3 Contact information for the main designated national competent authorities

Updated the following contact information for national competent authority regarding the IMDG Code:

| | |
|-------------------|---|
| AZERBAIJAN | Ministry of Emergency Situations of the Republic of Azerbaijan State Agency for Safe Working in Industry and Mountain-Mine Control 26 Najafgulu Rafiyev Street Baku Khatai Region AZ 1025 Azerbaijan Telephone: +994 12 512 1501 Telefax: +994 12 512 2501 Email: dag-meden@fhn.gov.az |
| CHILE | Dirección General del Territorio Marítimo y de Marina Mercante Emprocontra Milton Pizarro Barrella Dirección de Seguridad y Operaciones Marítimas Departamento Policía Marítima y Prevención de Riesgos División Cargas Peligrosas Subida Cementerio No.300, Playa Ancha Valparaíso 2520000 Chile Telephone: +56 32 220 8607 +56 32 220 8656 Email: mpizarrob@directemar.cl mmunoza@directemar.cl gsage@directemar.cl Website: http://www.directemar.cl |
| ECUADOR | SUBSECRETARIA DE PUERTOS Y TRANSPORTE MARITIMO Y FLUVIAL ING. IVAN SOLORZANO VILLACIS EXPERTO EN INFRAESTRUCTURA PORTUARIA CDLA. LOS CEIBOS - AV. DEL BOMBERO Y LEPOLDO CARRERA - EDIF. "GRACE" EP-PETROECUADOR - 1ER PISO GUAYAQUIL GUAYAS Ecuador Telephone: +593 4259 2080 Email: isolorzano@mtop.gob.ec Website: http://www.obraspublicas.gob.ec SUBSECRETARIA DE PUERTOS Y TRANSPORTE MARITIMO Y FLUVIAL (SPTMF) Ing. Richard Villacis Jefe de Contaminación Av. del Bombero y Leopoldo Carrera – Cdla. Ceibos. Edif. EP-Petroecuador. 1er piso Guayaquil Ecuador Telephone: +593 6272 3008 Email: rvillacis@mtop.gob.ec Website: https://www.obraspublicas.gob.ec |

| | |
|---------------------|--|
| | <p>Superintendencia del Terminal Petrolero de "El Salitral" (SUINSA) CPNV(SP) Raúl Aguirre Baldeón Superintendente Terminal Petrolero de el Salitral Guayaquil Ecuador Telephone: +593 4550 4901 Telefax: +593 4250 4901 Ext. 102/109 Email: suinsa_operaciones@mtop.gob.ec suinsa_radio@mtop.gob.ec raguirreb2000@hotmail.com</p> <p>Superintendencia del Terminal Petrolero de la Libertad (SUINLI) CPNV(SP) Roberto Ruiz Johns Superintendente Terminal Petrolero de la Libertad La Libertad Ecuador Telephone: +593 4278 5785 Telefax: +593 4278 5781 Email: suinli_operaciones@mtop.gob.ec suinli_radio@mtop.gob.ec rruiz@mtop.gob.ec</p> |
| FAROES (THE) | <p>SjÓvinnustYrið Faroese Maritime Authority P.O. Box 26 Á Hálsi 1, P.O. Box 26 Sørvágur FO-380 Faroes, DenmarkInni á StØð, P. O. Box 26 FO-375 Miðvágur, Faroe Islands Telephone: +298 35 5600 Telefax: +298 35 5601 Email: fma@fma.fo Website: https://www.fma.fo</p> |
| FRANCE | <p>Ministère de la Transition Ecologique et Solidaire Adjoint au Chef de la mission transport de matières dangereuses Mr Pierre DUFOUR MTES – DGPR – Mission Transport de matières dangereuses (MTMD) Tour Séquoia - Pièce 23-39 92055 Paris La Défense Cedex France Telephone: +33 1 4081 1496 Telefax: +33 1 4081 8641 Email: pierre.dufour@developpement-durable.gouv.fr</p> <p><i>Organizations authorized for packagings, large packagings and intermediate bulk containers (IBCs)⁷</i></p> |

| | |
|--|---|
| | <p>1 Association des Contrôleurs Indépendants (ACI) 22, rue de l'Est 92100 Boulogne-Billancourt France</p> <p>2 APAVE 191, rue de Vaugirard 75738 Paris Cedex 15 France</p> <p>3 Association pour la Sécurité des Appareils à Pression (ASAP) Continental Square – BP 16757 95727 Roissy-Charles de Gaulle Cedex France</p> <p>4 Bureau de Vérifications Techniques (BVT) ZAC de la Cerisaie – 31, rue de Montjean 94266 Fresnes Cedex France</p> <p>5 Bureau Veritas 67-71, rue du Château 92200 Neuilly-sur-Seine France</p> <p>6 Centre Français de l'Emballage Agréé (CeFEA) 5, rue Janssen 75019 Paris France</p> <p>7 Laboratoire d'Études et de Recherches des Emballages Métalliques (LEREM) Marchés de l'Oise – 100, rue Louis-Blanc 60160 Montataire France</p> <p>8 Laboratoire National de métrologie et d'Essais (LNE) 1, rue Gaston-Boissier 75724 Paris Cedex 15 France</p> <p><i>Organizations authorized for pressure receptacles²</i></p> <p>1 Association des Contrôleurs Indépendants (ACI) (Voir coordonnées ci-dessus)</p> <p>2 APAVE (Voir coordonnées ci-dessus)</p> <p>3 Association pour la Sécurité des Appareils à Pression (ASAP) (Voir coordonnées ci-dessus)</p> <p>4 Bureau Veritas (Voir coordonnées ci-dessus)</p> |
|--|---|

| | |
|---|--|
| | <p><i>Organizations authorized for tanks and multiple-element gas containers (MEGCs)²</i></p> <p>1 Association des Contrôleurs Indépendants (ACI) (Voir coordonnées ci-dessus)</p> <p>2 APAVE (Voir coordonnées ci-dessus)</p> <p>3 Bureau Veritas (Voir coordonnées ci-dessus)</p> |
| GERMANY | <p>Ministry of Transport and digital Infrastructure Division G 24 - Transport of Dangerous Goods Robert-Schuman-Platz 1</p> <p>Telephone: +49 (0) 228 300 2551 Email : ref-g24@bmvi.bund.de</p> |
| ICELAND | <p>Icelandic Transport Authority (ICETRA) Armuli 2 Reykjavik 108 Iceland</p> <p>Telephone: +354 480 6000 Email: samgongustofa@samgongustofa.is</p> |
| IRAN (ISLAMIC REPUBLIC OF) | <p>Ports and Maritime Organization PMO. No.1. Shahidi St. Haghani Exp'way Vanak Sq. Tehran 1518663111 Iran (Islamic Republic of)</p> <p>Telephone: +98 21 8493 2081/2 Email: info@pmo.ir</p> |
| ITALY | <p>Comando Generale del Corpo delle Capitanerie di Porto Lt. Cdr. (IT.C.G.) Giuseppe Notte Ufficio II - Merci Pericolose Via dell'Arte, 16 Roma 00144 Italy</p> <p>Telephone: +39 06 5908 4267 +39 06 5908 4652 Telefax: +39 06 5908 4630 Email: cgcp@pec.mit.gov.it segreteria.reparto6@mit.gov.it Website: http://www.guardiacostiera.gov.it</p> |

² Contact competent authority for further details of areas of authorization.

| | |
|---------------|---|
| JAPAN | <p>Inspection and Measurement Division Maritime Bureau Ministry of Land, Infrastructure, Transport and Tourism 2-1-3 Kasumigaseki, Chiyoda-ku Tokyo Japan Telephone: +81 3 5253 8639 Telefax: +81 3 5253 1644 Email: hqt-MRB_KSK@ml.mlit.go.jp</p> <p>Packaging Testing and Certification Institute Nippon Hakuyohin Kentei Kyokai (HK) (The Ship Equipment Inspection Society of Japan) 3-32; Kioi-Cho, Chiyoda-ku Tokyo Japan Telephone: +81 3 3261 6611 Telefax: +81 3 3261 6979</p> <p>Packagings, IBCs and large packagings in conformity with the IMDG Code will be marked "J", "J/JG" or "J/HK".</p> |
| MEXICO | <p><i>Stowage, segregation, labelling and documentation of goods</i> Coordinación General de Puertos y Marina Mercante Secretaría de Comunicación y Transportes Boulevard Adolfo López Mateos No. 1990 Col. Los Alpes Tlacopac, Del. Álvaro Obregón, C.P. 01010 México, Distrito Federal Telephone: +52 55 5723 9300 Email: coordgral.cgpmmm@sct.gob.mx Coordinador General: Ruiz de Teresa Guillermo Raúl</p> <p><i>Receipt and processing of notifications in the event of a package falling overboard</i> Secretaría de Marina Eje 2 Oriente, Tramo Heroica Escuela Naval Militar No. 861 Colonia Los Cipreses, C.P. 04830 México, Distrito Federal Telephone: +52 55 5624 6500 (extention: 6388) Email: ayjemg@semar.gob.mx Jefe del Estado Mayor General de la Armada de México: Vicealmirante C.G. DEM Joaquín Zetina Angulo</p> <p><i>Laboratory testing of packagings containing dangerous goods</i> Entidad Mexicana de Acreditación, A.C. Mariano Escobedo, No.564 Col. Nueva Anzures, Delegación Miguel Hidalgo C.P. 11590, Ciudad de México México Telephone: +52 55 9148 4300 Email: Maribel.lopez@ema.org.mx Directora Ejecutiva: Mtra. María Isabel López Martínez</p> |

| | |
|------------------|---|
| MONGOLIA | <p>Maritime Administration of Mongolia Division of Ship Registration and Regulation Government Building 11 Sambuu's street 11 Chingeltei district Ulaanbaatar 211238 Mongolia Telephone: +976 51 261 490 Telefax: +976 11 310 642 Email: info@monmarad.gov.mn operation@mngship.org Website: http://monmarad.gov.mn</p> |
| PERU | <p>Dirección General de Capitanías y Guardacostas (DICAPI) Jirón Constitución No.150 Callao Peru Telephone: +51 1209 9300 Anexo: 6757/6792 Email: jefemercanciaspeligrosas@dicapi.mil.pe</p> |
| PORTUGAL | <p>Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos (DGRM) Avenida Brasília Lisboa 1449-030 Portugal Telephone: +351 213 035 700 Telefax: +351 213 035 702 Email: dgrm@dgrm.mm.gov.pt</p> |
| SINGAPORE | <p>Maritime and Port Authority of Singapore Operations Division, Assistant Director (Marine Environment & Safety) Capt Charles Alexandar De Souza #19-00 Tanjong Pagar Complex 7B Keppel Road, Singapore 089055 Telephone: +65 6325 2420 Telefax: +65 6325 2454 Email: Charles_Alexandar_De_Souza@mpa.gov.sg</p> |
| TURKEY | <p>Ministry of Transport Maritime Affairs and Communications Directorate General for Regulation of Dangerous Goods and Combined Transport GMK Bulvarı No:128A/7 Maltepe/Ankara 06570 Turkey Telephone: +90 312 232 3850 +90 312 232 1249 Fax: +90 312 231 5189 Email: dangerousgoods@udhb.gov.tr Packing, Testing and Certification</p> |

| | |
|-------------------------------------|---|
| | <p>Turkish Standards Institution (TSE) 100. Yıl Bulvarı No:99 Kat:2 Ostim/Ankara Turkey Telephone: +90 312 592 5000/5039 Fax: +90 312 592 5005 Email: oalper@tse.org.tr</p> <p>Türk Loydu Vakfı İktisadi İşletmesi Tersaneler Caddesi 26, 34944 Turkey Telephone: +90 216 581 3700 Fax: +90 216 581 3800 Email: info@turkloydu.org</p> |
| UNITED KINGDOM (Isle of Man) | <p>Department of Economic Development Mr David Morter Isle of Man Ship Registry St Georges Court Upper Church Street Douglas Douglas IM1 1EE Isle of Man (United Kingdom) Telephone: +44 1624 688500 Email: marine.survey@gov.im Website: http://www.iomshipregistry.com</p> |
| UNITED STATES | <p>US Department of Transportation Pipeline and Hazardous Materials Safety Administration International Program Coordinator 1200 New Jersey Ave S.E. Washington, D.C. 20590 United States Telephone: +1 202 366 8553 Telefax: +1 202 366 7435 Email: infocntr@dot.gov</p> <p>United States Coast Guard – Commandant (CG-ENG-5) U.S. Coast Guard, Stop 7509 Attn: Chief, Hazardous Materials Division 2703 Martin Luther King Jr. Ave. SE Washington, D.C. 20593-7509 United States Telephone: +1 202 372 1420 Email: hazmatstandards@uscg.mil</p> |

Appendix A
List of generic and N.O.S. proper shipping names

In the List of generic and N.O.S. proper shipping names, header, column 2, replace "risk" with "hazard".

In the table, for class 2.1, under "General entries", after 3510, add the following new entry:

| | | | |
|-----|-------------|------|--|
| 2.1 | See 2.0.6.6 | 3537 | ARTICLES CONTAINING FLAMMABLE GAS, N.O.S. |
|-----|-------------|------|--|

In the table, for class 2.2, under "General entries", after 3511, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 2.2 | See 2.0.6.6 | 3538 | ARTICLES CONTAINING NON- FLAMMABLE, NON- TOXIC GAS, N.O.S. |
|-----|-------------|------|---|

In the table, for class 2.3, under "General entries", after 3512, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 2.3 | See 2.0.6.6 | 3539 | ARTICLES CONTAINING TOXIC GAS, N.O.S. |
|-----|-------------|------|---|

In the table, for class 3, under "General entries", after 3526, add the following new entry:

| | | | |
|---|-------------|------|---|
| 3 | See 2.0.6.6 | 3540 | ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S. |
|---|-------------|------|---|

In the table, for class 4.1, under "General entries", after 3534, add the following new entry:

| | | | |
|-----|-------------|------|--|
| 4.1 | See 2.0.6.6 | 3541 | ARTICLES CONTAINING FLAMMABLE SOLID, N.O.S. |
|-----|-------------|------|--|

In the table, for class 4.2, under "General entries", after 3200, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 4.2 | See 2.0.6.6 | 3542 | ARTICLES CONTAINING A SUBSTANCE LIABLE TO SPONTANEOUS COMBUSTION, N.O.S. |
|-----|-------------|------|---|

In the table, for class 4.3, under "General entries", after 2813, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 4.3 | See 2.0.6.6 | 3543 | ARTICLES CONTAINING A SUBSTANCE WHICH EMITS FLAMMABLE GAS IN CONTACT WITH WATER, N.O.S. |
|-----|-------------|------|---|

In the table, for class 5.1, under "General entries", after 3139, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 5.1 | See 2.0.6.6 | 3544 | ARTICLES CONTAINING OXIDIZING SUBSTANCE, N.O.S. |
|-----|-------------|------|---|

In the table, for class 5.2, after "Specific entries", add a new section "General entries" with the following new entry:

| | | | |
|-----|-------------|------|--|
| 5.2 | See 2.0.6.6 | 3545 | ARTICLES CONTAINING ORGANIC PEROXIDE, N.O.S. |
|-----|-------------|------|--|

In the table, for class 6.1, under "General entries", after 3489, add the following new entry:

| | | | |
|-----|-----|------|---|
| 6.1 | 4.1 | 3535 | TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S. |
|-----|-----|------|---|

In the table, for class 6.1, under "General entries", after 3462, add the following new entry:

| | | | |
|-----|-------------|------|---|
| 6.1 | See 2.0.6.6 | 3546 | ARTICLES CONTAINING TOXIC SUBSTANCE, N.O.S. |
|-----|-------------|------|---|

In the table, for class 8, under "General entries", after 3267, add the following new entry:

| | | | |
|---|-------------|------|---|
| 8 | See 2.0.6.6 | 3547 | ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S. |
|---|-------------|------|---|

In the table, for class 9, under "General entries", after 3335, add the following new entry:

| | | | |
|---|-------------|------|---|
| 9 | See 2.0.6.6 | 3548 | ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS, N.O.S. |
|---|-------------|------|---|

INDEX

For the entry "2-DIMETHYLAMINOETHYL ACRYLATE", in the column "Substance, material or article", add ", STABILIZED" at the end.

Insert the following new entries in alphabetical order:

| Substance, material or article | MP | Class | UN No. |
|--|-----------|--------------|---------------|
| ARTICLES CONTAINING FLAMMABLE GAS, N.O.S. | - | 2.1 | 3537 |
| ARTICLES CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S. | - | 2.2 | 3538 |
| ARTICLES CONTAINING TOXIC GAS, N.O.S. | - | 2.3 | 3539 |
| ARTICLES CONTAINING FLAMMABLE LIQUID, N.O.S. | - | 3 | 3540 |
| ARTICLES CONTAINING FLAMMABLE SOLID, N.O.S. | - | 4.1 | 3541 |
| ARTICLES CONTAINING A SUBSTANCE LIABLE TO SPONTANEOUS COMBUSTION, N.O.S. | - | 4.2 | 3542 |
| ARTICLES CONTAINING A SUBSTANCE WHICH EMITS FLAMMABLE GAS IN CONTACT WITH WATER, N.O.S. | - | 4.3 | 3543 |
| ARTICLES CONTAINING OXIDIZING SUBSTANCE, N.O.S. | - | 5.1 | 3544 |
| ARTICLES CONTAINING ORGANIC PEROXIDE, N.O.S. | - | 5.2 | 3545 |
| ARTICLES CONTAINING TOXIC SUBSTANCE, N.O.S. | - | 6.1 | 3546 |
| ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S. | - | 8 | 3547 |
| ARTICLES CONTAINING MISCELLANEOUS DANGEROUS GOODS, N.O.S. | - | 9 | 3548 |
| DI-(4-tert-butylcyclohexyl) peroxydicarbonate, <i>see</i> | - | 5.2 | 3116 |
| Diisobutyl peroxide, <i>see</i> | - | 5.2 | 3119 |
| 1-dodecene, <i>see</i> | - | 3 | 2850 |
| LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries | - | 9 | 3536 |
| 1-Phenylethyl hydroperoxide, <i>see</i> | - | 5.2 | 3109 |
| Phosphorothioic acid, o-[(cyanophenyl methylene) azanyl] o,o-diethyl ester, <i>see</i> | - | 4.1 | 3227 |
| TOXIC SOLID, FLAMMABLE, INORGANIC, N.O.S. | - | 6.1 | 3535 |

第 13/2021 號行政長官公告

按照中央人民政府的命令，行政長官根據第3/1999號法律《法規的公佈與格式》第六條第一款的規定，命令公佈聯合國安全理事會於二零二零年十一月十二日通過的關於索馬里局勢的第2551 (2020) 號決議的中文和英文正式文本。

二零二一年三月二十六日發佈。

行政長官 賀一誠

Aviso do Chefe do Executivo n.º 13/2021

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 (Publicação e formulário dos diplomas), por ordem do Governo Popular Central, a Resolução n.º 2551 (2020) relativa à situação na Somália, adoptada pelo Conselho de Segurança das Nações Unidas em 12 de Novembro de 2020, nos seus textos autênticos em línguas chinesa e inglesa.

Promulgado em 26 de Março de 2021.

O Chefe do Executivo, *Ho Iat Seng*.