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澳門特別行政區公報 BOLETIM OFICIAL DA REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU

副刊 SUPLEMENTO

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印務局，澳門官印局街。電話：2857 3822 • 傳真：2859 6802 • 電子郵件：info@io.gov.mo

Imprensa Oficial, Rua da Imprensa Nacional — Macau. Tel.: 2857 3822 • Fax: 2859 6802 • E-mail: info@io.gov.mo
網址 Website: <http://www.io.gov.mo>

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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 97/2014 號行政長官公告****Aviso do Chefe do Executivo n.º 97/2014**

中華人民共和國是國際海事組織的成員國及一九七四年十一月一日訂於倫敦的《國際海上人命安全公約》的締約國；

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional e um Estado Contratante da Convenção Internacional para a Salvaguarda da Vida Humana no Mar, concluída em Londres em 1 de Novembro de 1974;

國際海事組織海上安全委員會於一九八七年四月二十九日透過第MSC.10(54)號決議通過了《國際散裝運輸危險化學品船舶構造和設備規則》的修正案，且有關修正案自一九九九年十二月二十日起對澳門特別行政區生效；

Considerando igualmente que, em 29 de Abril de 1987, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.10(54), adoptou emendas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Substâncias Químicas Perigosas a Granel, e que tais emendas entraram em vigor, em relação à Região Administrativa Especial de Macau, em 20 de Dezembro de 1999;

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.10(54)號決議的中文及英文文本。

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.10(54), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

二零一四年十一月十八日發佈。

Promulgado em 18 de Novembro de 2014.

行政長官 崔世安

O Chefe do Executivo, *Chui Sai On*.

第 MSC.10 (54) 號決議

1987 年 4 月 29 日通過

通過國際散裝運輸危險化學品船舶構造 和設備規則的修正案（國際散化規則）

海上安全委員會，

憶及國際海事組織公約有關該委員會職能的第 28 (b) 條規定，

注意到第 MEPC19 (22) 號決議，海上環境保護委員會以該決議通過了經修正的國際散裝運輸危險化學品船舶的構造與設備規則，該規則編入了海上安全委員會以第 MSC.4 (48) 號決議通過的關於該規則的修正案，

還注意到環保會建議海安會考慮通過同樣的修正案，

進一步注意到經修正的 1974 年國際海上人命安全公約中關於修改國際散化規則的程序的第 VIII (b) 條和規則 VII/8.1，

在其第五十四屆會上審議了根據該公約第 VIII (b) (i) 條的規定提出並散發的關於該規則的修正案，

1. 根據公約第 VIII (b) (iv) 條通過該規則的修正案，文本見本決議附件；

2. 決定根據公約第 VIII (b) (vi) (2) (bb) 條，該修正案應被認為於 1988 年 4 月 29 日被接受，除非在此日期之前有三分之一以上的該公約的締約國政府或所擁有的商船隊之和不少於世界商船隊總噸位 50% 的締約國政府聲明他們反對該修正案；

3. 請締約國政府注意，根據該公約的第 VIII (b) (vii) (2) 條，在他們按照上述第 2 段規定接受修正案後，該修正案將於 1988 年 10 月 30 日生效；

4. 要求秘書長按照該公約第 VIII (b) (V) 的規定，將該決議以及附件中的修正案文本的經核對無誤的副本轉發給所有經修正的 1974 年國際海上人命安全公約的締約國政府；

5. 進一步要求秘書長將該決議及其附件散發給不是該公約締約國的本組織成員國。

附件

國際散裝運輸危險化學品船舶構造和設備

規則 1987 年修正案（國際散化規則）

1.1 適用範圍

1.1.1 在現有文本導言中，在“危險”和“液體”之間加上“或有毒的”這幾個字。

1.1.2A 增加下列新的第 1.1.2A 段：

“1.1.2A 就 1974 年安全公約而言，本規則不適用於那些從事運載第 17 章中僅因其污染特性作為依據的貨品的船舶，從而在 d 欄中以“p”標誌加以確定。”

1.1.2B 增加下列新的第 1.1.2B 段：

“1.1.2B 就 73/78 防污公約而言，本規則僅適用於該公約附則 II 規則 1（1）規定的化學品船，此種化學品船運載 C 欄中註有“A，B 或 C”標誌的 A、B 或 C 類有毒液體物質。”

1.1.5 在現有的第 1.1.5 段後增加下列句子：

“該改建條款本適用於 73/78 防污公約附則 II 規則 1（12）所指船舶的改建。”

1.2 危害性

1.2.6 增加一新 1.2.6 段：

“1.2.6 由下列因素確定的海上污染危害性

- .1 生物聚積並對水生物或人體健康造成危害或使海味食品受到
沾染；
- .2 對生物資源的損害；
- .3 對人體健康的危害；及
- .4 減少了環境的舒適性。”

1.3 定義

1.3.5 在第一句中，在“鄰接液貨艙”後加上“或污液艙”。

1.3.18A , 1.3.18B 和 1.3.27A 增加下列定義：

1.3.18A 73/78 防污公約係指經 1978 年議定書修正的 1973 年國際防止船舶造成污染公約。

1.3.18B 有毒液體物質係指 73/78 防污公約附則 II 附錄 II 所確定的任何物質或根據該附則規則 3 (4) 條款被臨時評定為 A , B , C 或 D 類的任何物質。

1.3.27A 程序及裝置標準係指海上環境保護委員會第二十三屆會議以第 MEPC 18 (22) 號決議通過的，可由本組織修正的 73/78 防污公約附則 II 所要求的有毒液體物質排放的程序及裝置標準。”

1.4 等效條款

1.4.2 在現有文本的“1974 年安全公約的其他締約國政府”後加上“和 73/78 防污公約締約國”這幾個字。

1.5 檢驗與發證

1.5.4.1 在現有文本的“化學品液貨船”之前加上“從事國際航行的”這幾個字。

1.5.5.1 在現有文本的第 1 行和第 2 行，分別將“締約國政府”改為“1974 年安全公約的締約國和 73/78 防污公約的締約國”，將“另一國政府”改為“另一締約國”。

2.5.2 將標題“其他破損”刪去並將現有文本的 2.5.2.1 改為 2.5.2，將現有文本的 2.5.2.2 刪去。

2.6 液貨艙位置

2.6.1 在現有文本的第.1 和第.2 分段後增加下列句子

“本要求不適用於裝有經稀釋的洗艙水的液貨艙。”

2.9.3.1 在現有文本第一句的末尾，用“m.rad”代替“m/rad”

3.1 貨物分隔

3.1.2 將第.1 段之前的現有文本改成：

“會與其他貨物，殘餘物或混合物產生危險反應的貨物，殘餘物或貨物的混合物應：”

10.2.3.5 在現有文本中，將“貨物區域中的空隔艙”改為“液貨艙區域中的空隔艙”。

12.1.8.1 在現有文本中，將“葉輪和套罩”改為“葉輪或套罩”。

15.5 高於 60%但不超過 70%的過氧化氫溶液。

將現有標題改為“過氧化氫溶液”並加入不帶編號的副標題“高於 60%但不超過 70%的過氧化氫溶液”

15.5.1 在現有文本中，在“過氧化氫溶液”之前加上“高於 60%但不超過 70%的”。

15.5.14 在現有文本的第 15.5.13 段後加上下列文字：

“按重量計高於 8%但不超過 60%的過氧化氫溶液”。

15.5.14 船舶的船殼板不應成為裝有這種貨品的貨艙的界板。

15.5.15 過氧化氫應裝在經徹底和有效地清除了原先貨物的一切殘迹及其蒸發氣體或壓載水的貨艙內。應根據 MSC/Circ.394 號通函確定貨艙檢查，清洗，鈍化和裝貨程序。船舶應攜帶一證書以證明通函的程序得到了遵守。對於航期較短的國內運輸，主管機關可免除鈍化要求。在此問題上的謹慎小心對於確保過氧化氫的安全運輸是必不可少的。

- .1 在裝運過氧化氫時，不得同時裝載其他貨物。
- .2 裝載過過氧化氫的貨艙，經按 MSC/Circ.394 號通函規定的程序清洗後，可用於裝載其他貨物。
- .3 在設計時應考慮提供最少的艙內結構，應能自由排空，沒有殘留並易於目檢。

15.5.16 貨艙及有關設備應是純鋁（99.5%）或是適合裝載過氧化氫的各種純不鏽鋼材料製成（如 304，304L，316，316L，316Ti）。甲板上的管路不應使用鋁。用於建造裝貨系統的非金屬材料不應受到過氧化氫的侵蝕或促使其分解。

15.5.17 應由空隔艙將貨艙與燃油艙或裝有與過氧化氫不相容的材料的其他處所分開。

15.5.18 溫度感應器應安裝在貨艙的頂部和底部。遙控溫度顯示裝置和連續監測裝置應當位於駕駛台。如果艙內溫度超過 35°C，駕駛台上應發出視覺和聽覺警報。

15.5.19 在貨艙周圍空處應裝上固定氧氣監測儀（或瓦斯取樣管）以探測貨物是否漏入這些處所。應認識到由於含氧量的增加會引起易燃性的增加。

遙控溫度顯示，連續監測（如使用瓦斯取樣管，間歇取樣為好）和類似用於溫度感應器的警報器的視覺、聽覺警報均應位於駕駛台。如果這些空處的氧氣濃度以容積計超過 30%，應發出視覺和聽覺警報。應提供兩個移動式氧氣監測儀作為備用系統。

15.5.20 為防止非控制性分解，應安裝一個將貨物向船外排放的棄貨系統。如果貨物溫度升高率超過每五小時 2°C 或貨艙溫度超過 40°C 時，貨物應被拋棄。

15.5.21 具有過濾性能的貨艙通氣系統應有壓力真空釋放閥以便進行正常的，有控制的通氣；並應具有緊急通氣裝置，以使用於 15.2.20 段中所述的因非控制性分解率引起的艙壓迅速升高。這些通氣系統在設計上要做到在海浪大的情況下，也不會使海水進入到貨艙中。緊急通氣系統的能力應根據貨艙的設計壓力和貨艙的大小來確定。

15.5.22 應提供固定灑水系統來稀釋和沖走灑在甲板上的濃縮液。灑水器的噴灑區域應包括總管/軟管的接頭以及專門裝載過氧化氫溶液的貨艙的頂部。最低灑水率應達到以下標準：

- .1 在貨物漏出五分鐘之內將貨物以原先的濃度按重量計稀釋至 35%。
- .2 貨物溢漏的速度和估計的數量應以最大預計裝卸率，在貨艙滿溢或管路/軟管出現故障時制止貨物流出所需時間以及在貨物控制位置或在駕駛台上啓動噴灑稀釋水所需時間為基礎。

15.5.23 應使過氧化氫穩定以防止其分解。廠家應提供一份穩定性證書，表明：

- .1 所加入穩定劑的名稱和數量；
- .2 加入穩定劑的日期和有效期；
- .3 影響穩定劑有效期的溫度限制；
- .4 在航行中產品變得不穩定時應採取的行動。

15.5.24 只能載運在 25°C 時其年最大分解率為 1.0% 的過氧化氫溶液。托運人證明產品達到這一要求的證書應交給船長保留在船上。廠家的技術代表應在船上監視裝貨作業並能測試過氧化氫的穩定性，並向船長證明，貨物已裝船完畢，處於穩定狀況。

15.5.25 應向從事貨物裝卸作業的每一船員提供能抗禦過氧化氫的保護服裝。保護服裝應包括不燃的工作服，合適的手套、靴子和眼睛保護裝置。

15.5.26 在輸送過氧化氫時，有關的管系應與其他所有系統分開。用於輸送過氧化氫的輸貨軟管上應標明。“輸送過氧化氫專用”。

15.8 將現有的第 15.8 節改為：

“15.8 氧化丙烯及環氧乙烷/氧化丙烯的混合物中環氧乙烷的含量以重量計不超過 30 %。

15.8.1 根據本節規定運輸的貨品應不含乙炔。

15.8.2 除非貨艙得到適當沖洗，否則這些貨品不得裝在曾裝過如上述三種貨物之一的會催化聚合的任何貨品的貨艙內，這些會催化聚合的貨品包括：

- .1 無機酸（如硫酸、鹽酸、硝酸）；
- .2 羧酸和酞（如甲酸、醋酸）；
- .3 鹵化羧酸（如氯醋酸）；
- .4 磺酸（苯磺酸）；
- .5 苛性鹼（氫氧化鈉，氫氧化鉀）；
- .6 氨和氨液；
- .7 胺和胺溶液；
- .8 氧化物。

15.8.3 裝船前，應對貨艙進行徹底有效的清洗，除去貨艙及有關管路中的原先貨物的一切痕跡，但所裝的前一種貨物是氧化丙烯或環氧乙烷/氧化丙烯混合物的貨艙除外。用不鏽鋼以外的其他鋼製貨艙裝運氨時，應特別小心。

15.8.4 在任何情況下均應進行適當的測試或檢查來驗證貨艙和有關管路的清洗程序的有效性，以確保沒有留下在載運這些貨品時會引起危險情況的酸性或鹼性材料的痕跡。

15.8.5 在首次裝載這些貨品前，應進入貨艙檢查以確保沒有沾染、大量的鏽沉積物和可見的結構缺陷。當貨艙連續裝運這些貨品時，應在期限不超過兩年的時間內進行這種檢查。

15.8.6 裝運這些貨品的貨艙應是鋼或不鏽鋼製成。

15.8.7 裝運這些貨品的貨艙在對其及有關管路系統進行了徹底清洗或清除後可用於裝運其他貨物。

15.8.8 所有的閘門、法蘭、屬具和輔助設備均應屬適用於這些貨品的類別，並應用鋼或不鏽鋼或主管機關可以接受的其他材料製成。在製作之前，應將所使用的所有材料的化學成分送交主管機關批准。閘門的圓盤或圓盤面，閘座或其他磨損部件應使用含鉻不少於 11%的不鏽鋼製作。

15.8.9 墊圈應使用與這些貨品不起反應，不在其中溶解或不降低這些貨品的自燃溫度、具有耐火和足夠機械性能的材料製作。暴露於貨物的那一面應是聚四氟乙烯（PTFE）或因其惰性而具有相同安全程度的材料。主管機關可以接受其墊片是聚四氟乙烯或相似的氟化聚合物的螺旋式不鏽鋼材料。

15.8.10 如果使用了隔層和襯墊，其材料不應與這些貨品起反應，不在其中溶化或不減低這些貨品的自燃溫度。

15.8.11 下列材料一般不適用於用作這些貨品的裝載系統的墊圈、襯墊或相似部件，在主管機關對其批准之前應進行測試：

- .1 氯丁橡膠或天然橡膠，（如果與貨品接觸）。
- .2 石棉或與石棉一同使用的黏合劑。

.3 含有鎂的氧化物的材料，如礦渣棉。

15.8.12 在貨物的液體和汽化液體管路中不應使用有螺紋的接頭。

15.8.13 裝卸貨管路應伸至貨艙或任何貯槽底部 100mm 以內的地方。

15.8.14.1 裝載這些貨品的貨艙的裝載系統應有一個裝有閥門的汽體返回連接裝置。

15.8.14.2 在裝、卸貨物時貨艙不得向大氣中通風。在裝艙時如使用汽化液體返岸方法，與裝載貨品的裝載系統相連接的汽化液體返回系統應獨立於所有其他裝載系統。

15.8.14.3 在卸貨作業時，艙內壓力應保持在巴表 0.07 刻度以上。

15.8.15 只可使用深井泵，液壓潛水泵或惰氣換置方法進行卸貨，各貨泵的佈置應保證當泵的排放管路被關或被堵時，貨品不會有很大的增溫。

15.8.16 裝運這些貨品的貨艙的透氣作業應與裝運其他貨品的貨艙分開進行。應提供裝置使對貨艙的貨品取樣時貨艙不與大氣相通。

15.8.17 用以運送這些貨品的貨物軟管上應標有“運送烯化氧專用”字樣。

15.8.18 貨艙、空處所和其他封閉處所，如果鄰近於裝載氧化丙烯的整體重力貨艙時，應裝載相容的貨物（15.8.2 中所述貨物是不相容貨物的典型）或通過注入某種合適的惰性氣體使其惰化。任何有獨立貨艙的貨艙處所都應當被惰化。這些處所的含氧量應保持在 2% 以下。可使用便攜式取樣設備。

15.8.19 當管路系統中裝有這些貨品時，在任何情況下均不允許空氣進入貨泵或該系統。

15.8.20 在與岸上管路分離前，應通過裝貨集管上合適的閥門減少液體和汽體管路中的壓力。這些管路中的液體和汽體不應排到大氣中去。

15.8.21 可在壓力艙或獨立的貨艙或整體的重力貨艙中裝載氧化丙烯。環氧乙烷/氧化丙烯混合物應裝在獨立的重力貨艙或壓力艙中。貨艙的設計壓力應為裝、運、卸貨中可能遇到的最大壓力。

15.8.22.1 裝載氧化丙烯，設計壓力小於 0.6 巴表計的貨艙和裝載環氧乙烷/氧化丙烯混合物，設計壓力小於 1.2 巴表計的貨艙應配有冷卻系統使貨物低於基準溫度。

15.8.22.2 對於在有限區域航行或航期較短的船舶，主管機關可免除其設計壓力小於 0.6 巴表計的貨艙的冷藏要求。在這種情況下還可考慮對這些貨艙採取隔熱措施。允許進行這種運輸的區域和每年的次數應當包括在國際散裝運輸危險化學品合格證書的載運條件中。

15.8.23.1 任何冷卻系統均應使液體溫度在裝載壓力下保持在沸點以下。至少要有兩個可根據貨艙內的變化而自動調節的完整的冷卻裝置。每一冷卻裝置均應帶有供正確操作使用的輔助設備，控制系統還應當能夠手工操作。應配有報警器，用以指示溫控裝置的故障。每一冷卻系統均應能夠使液貨的溫度保持在該系統的基準溫度*之下。

* 見第 15.8.22.1 段。

15.8.23.2 有一種替代辦法，就是配備三個冷卻裝置，其中任何兩個裝置一起工作時均應能使液體溫度保持在基準溫度*以下。

15.8.23.3 僅由一層單牆與貨品分開的冷卻介質應當是不與貨品起反應的。

15.8.23.4 不應使用要求對貨品進行壓縮的冷卻系統。

15.8.24 減壓閥的調定量不應小於 0.2 巴表計；對於裝運氧化丙烯的壓力貨艙，應不大於 7.0 巴表計；對於裝運環氧乙烷/氧化丙烯混合物的壓力貨艙，應不大於 5.3 巴表計。

15.8.25.1 裝載這些貨品的貨艙的管道系統（按第 1.3.24 段規定）應與所有其他貨艙（包括空貨艙在內）的管道系統分開。如果裝貨艙的管道系統不是獨立的（如第 1.3.15 段規定），應通過除去短管，閥門或其他的管道連接件以及在這些位置土安裝無孔法蘭來達到所要求的管道分隔。所要求的分隔適用於所有的液體和汽體管道，液體和汽體管道的通氣管路和其他任何可能的連接管，如共用惰氣供應管路。

15.8.25.2 這些貨品只可根據主管機關業已批准的貨物裝卸計劃進行運輸。每一預定的裝載安排均應顯示在一份單獨的裝卸計劃上。貨物裝卸計劃應顯示出整個的貨物管路系統以及為達到上述管路分隔要求而安裝的無孔法蘭的位置。對每一份經批准的裝卸計劃，船舶均應存留一份副本。在給國際散裝運輸危險化學品合格證書背書時要提及業經批准的貨物裝卸計劃。

15.8.25.3 在每次初次裝載這些貨品之前以及每次重新從事這種服務之前，均應從港口主管機關承認的負責人員處得到一份證明已完

成所需管道分隔的證書並存放在船上。無孔法蘭和管道法蘭間每一連接件都應由負責人員裝上鋼絲和封印以確保不致因疏忽而撤走無孔法蘭。

15.8.26.1 在基準溫度下*，貨艙的液體容量不得超過 98%。

15.8.26.2 貨艙的最大裝貨量為：

$$V_L = 0.98V \frac{d_R}{d_L}$$

式中： V_L = 貨艙最大裝貨量

V = 貨艙容積

d_R = 在基準溫度下*貨物的相對密度

d_L = 在裝船溫度和壓力下貨物的相對密度。

15.8.26.3 應在主管機關認可的一份清單上列出每一可使用的裝船溫度，可使用的最高基準溫度下每一貨艙的最大允許灌注量。該清單的副本應由船長永久保留在船上。

15.8.27 裝載貨物時要有合適的氮氣保護層。應安裝氮氣自動發生系統，防止因環境或冷藏系統出現故障使貨品溫度下降時，艙壓降到 0.07 巴表計之下。船上應有足夠氮氣以滿足自動壓力控制的要求。作為填料的氮氣應為商業甲級純氮（99.9%，以體積算）。本段中所說的“自動”可以由減壓閥連接到貨艙上的一套氮氣瓶來達到。

15.8.28 在裝艙之前和之後均應對貨艙汽體處所進行測試，以保證含氧量為 2%或更少（以體積算）。

* 見第 15.8.22.1 段。

15.8.29 應配備有足夠能力的灑水系統以便有效地噴灑裝貨集管的周圍地區、與貨品裝卸有關的暴露在外的甲板管路和貨艙的圓頂。在安排管路和噴頭時要做到每分鐘 $10\ell/m^2$ 均勻的噴水率。灑水系統可手工在就地或在遠處操作，其佈置要保證漏出的貨物均被沖走。此外，當大氣溫度允許時，應連接好噴頭帶壓力的裝水軟管，使其在裝、卸作業時隨時可以使用。

15.8.30 在輸送貨物時，每一貨物軟管的接頭處均應配備一個可控制關閉率的可遙控操作的截流閥。

16.2 有關貨物的資料

在原有文本中加上下列新的第 16.2.6，16.2.7，16.2.8 和 16.2.9 段以及第 16.2.8 的腳註：

16.2.6 當第 17 章的表格的“m”欄提及本段時，應在裝船單據上寫明貨物在 20°C 時的黏度，如果在 20°C 時貨物的黏度超過 25mpa.s 時，則應在裝船單據上寫明貨物黏度為 25mpa.s 時的溫度。

16.2.7 當第 17 章的表格的“m”欄提及本段時，應在裝船單據上寫明貨物在 20°C 時的黏度，如果在 20°C 時貨物黏度超過了 60mpa.s ，則應在裝船單據上寫明貨物黏度為 60mpa.s 時的溫度。

16.2.8 如果第 17 章的表格的“m”欄中提及本段而且貨物有可能在特殊區域*範圍內卸貨時，應在裝船單據上寫明在 20°C 時貨物的黏度，如果在 20°C 時貨物黏度超過了 25mpa.s ，則應在裝船單據上寫明貨物黏度為 25mpa.s 時的溫度。

* 73/78 防污公約附則 II 規則 1 (7) 中有特殊區域的定義。

16.2.9 當第 17 章的表格的“m”欄中提及本段時，裝船單據上應註明該貨物的熔點。

16A 在原有文本中加入下列新的第 16A 章：

“第 16A 章 – 保護海洋環境的補充措施

16A.1 通則

16A.1.1 本章的要求適用於裝運在第 17 章註明為 A，B 或 C 類有毒液體物質的貨品的船舶。

16A.2 裝運條件

16A.2.1 國際散裝運輸危險化學品合格證書所列貨品的裝運條件應反映出 73/78 防污公約附則 II 規則 5A 條的要求。

16A.2.2 熔點等於或大於 15°C 的 B 類物質不應裝在其邊緣是由船殼板構成的貨艙內，只能裝在配有貨物加熱系統的貨艙中。

16A.3 程序與裝置手冊

16A.3.1 每艘船舶均應配有根據程序與裝置標準為該船制定的並經主管機關認可的程序與裝置手冊。

16A.3.2 每艘船舶均應配有其程序與裝置手冊中所註明的設備和裝置。”

把第 17 章的原有文本改為：

第 17 章——最低要求一覽表

註釋*

貨品名稱（a 欄）* 貨品名稱與本規則原來版本或國際散化規則所列名稱不一致，說明請見化學品索引。括號中的污染類別說明該貨品已被臨時分類並需要進一步的數據資料以完成對其污染危害的評定。在危害評定完成後，所定的污染類別方能使用。

聯合國編號（b 欄） 每種貨品的編號載於聯合國危險品運輸專家委員會的建議中，所列聯合國編號僅供參考。

污染類別（c 欄） 字母 A，B，C 或 D 係指按 73/78 防污公約附則 II 對每一貨品所定的污染類別。“III”係指該貨品經評定後不屬於 A，B，C 或 D 類。

危害性（d 欄） S 係指貨品因其安全危害性而被列入本規則；

P 係指貨品因其污染危害性而被列入本規則；

S/P 係指貨品既因其安全危害性也因其污染危害性而被列入本規則。

* 秘書處的說明：

本規則其他章節中提到 a-o 欄的地方將根據此處所示各欄的內容加以修改。

船舶類型 (e 欄)	1 = 1 型船 (2.1.2)
	2 = 2 型船 (2.1.2)
	3 = 3 型船 (2.1.2)
貨艙類型 (f 欄)	1 = 獨立貨艙 (4.1.1)
	2 = 整體貨艙 (4.1.2)
	G = 重力貨艙 (4.1.3)
	P = 壓力貨艙 (4.1.4)
貨艙通氣 (g 欄)	Open : 開啟通氣
	Cont : 控制通氣
	SR : 安全釋放閥
貨艙環境控制*	Inert : 惰性法控制 (9.1.2.1)
(h 欄)	
	Pad : 液體或氣體充填法控制 (9.1.2.2)
	Dry : 乾燥法控制 (9.1.2.3)
	Vent : 自然或強力通風法控制 (9.1.2.4)
電氣設備 (i 欄)	T1 至 T6 溫度等級**
	IIA , IIB 或 IIC 設備分類**

* “No”表示沒有要求。

** 溫度等級和設備分類載於國際電工委員會 79 號出版物 (第 1 部分 , 附錄 D , 第 4 , 8 和 12 部分) 。 空白表示目前尚無資料。

NF：非易燃貨品（10.1.6）

Yes：閃點超過 60°C（閉杯試驗）

（10.1.6）

No：閃點不超過 60°C（閉杯試驗）

（10.1.6）

測量（j 欄）

O：開敞式測量（13.1.1.1）

R：限制式測量（13.1.1.2）

C：封閉式測量（13.1.1.3）

I：間接式測量（13.1.1.3）

蒸氣探測*（k 欄）

F：易燃蒸氣

T：有毒蒸氣

防火（l 欄）

A：抗乙醇泡沫

B：普通泡沫，包括所有非抗乙醇泡沫，其中
包括氟化蛋白質和水膜泡沫（AFFF）

C：水霧

D：化學乾粉

NO：在本規則中無特殊要求

構造材料（m 欄）

N：見 6.2.2

Z：見 6.2.3

Y : 見 6.2.4

呼吸道及眼睛 空白表示對建造材料無特殊要求

防護* (n 欄) E : 見 14.2.8

* “No”表示沒有要求。

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	級	類	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸 道防 及護	特殊要求 (見第15章)
乙酸	2789	C	S/P	3	2G	Cont.	No	T1	IIA	No	H	F	A	Y1,Z	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.2.9
醋酐	1715	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
丙酮羧醇	1541	A	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A	Y1	E	15.1, 15.12, 15.17 to 15.19, 16.6
乙腈	1648	III	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A		No	15.12
丙烯酸胺溶液 (50%或更少)	2074	D	S	2	2G	Open	No		NF		C	No	No		No	15.12.3, 15.13, 15.16.1, 15.19.6, 16.6.1
丙烯酸	2218	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1	No	15.13, 16.6.1
丙烯腈	1093	B	S/P	2	7G	Cont.	No	T1	IIB	No	C	F-T	A	N3,Z	E	15.12, 15.13, 15.17, 15.19
己二腈	2205	D	S	3	2G	Cont.	No		IIB	Yes	R	T	A		No	
甲苯中的烷基丙烯酸鹽 乙炔吡啶共聚物		(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	電氣設備			測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 及 護		特殊要求 (見第15章)
								級	類	60°C 閃 點							
烷基苯磺酸	2584 2586	C	S/P	3	2G	Open	No			Yes	O	No	B		No		
烯丙醇	1098	B	S/P	2	2G	Cont.	No	T2	IIB	No	C	F-T	A		E	15.12, 15.17, 15.19	
烯丙基氯	1100	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A		E	15.12, 15.17, 15.19	
2-(2-氨基乙氧基)乙醇	3055	D	S	3	2G	Open	No			Yes	O	No	A,C, D	N2	No	15.19.6	
氯乙醇醇胺		(D)	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	N1	No		
正-氨基基咪嗪	2815	D	S	3	2G	Cont.	No			Yes	R	T	A,C, D	N2	No	15.19.6	
氨水 (28%或更少)	2672 (m)	C	S/P	3	2G	Cont.	No		NF		R	T	C	N4	E(a)		
硝酸溶液 (93%或更少)	2426	D	S	2	1G	Open	No		NF		O	No	No	Y4	No	15.2, 15.11.4, 15.11.6, 15.18, 15.19.6	
硫化銨溶液 (45%或更少)	2683	B	S/P	2	2G	Cont.	No	-	-	No	C	F-T	A,C	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																
正-乙酸戊酯	1104	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
仲-乙酸戊酯	1104	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
商用乙酸戊酯	1104	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
苯胺	1547	C	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A		No	15.12, 15.17, 15.19
苯和含苯量為 10% 或以上的混合物	1114 (t)	C	S/P	3	2G	Cont.	No	T1	IIA	No	R	F-T	B		No	15.12.1, 15.17, 16.2.9
苯磺酰氯	2225	D	S	3	2G	Cont.	No			Yes	R	T	B,D	N1	No	15.19.6
乙醇苄		C	P	3	2G	Open	No			Yes	O	No	A		No	
氯化苄	1738	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	B		E	15.12, 15.13, 15.17, 15.19
醋酸正丁酯	1123	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
丙烯酸鹽正丁酯	2348	D	S	2	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.13, 16.6.1, 16.6.2
丁胺 (全異構體)	1125 1214	C	S/P	2	2G	Cont.	No			No	R	F-T	A	N1	E	15.12, 15.17, 15.19.6
丁苄鄰苯二甲酸鹽		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
甲基丙烯酸鹽丁酯/癸酯/		D	S	3	2G	Cont.	No			Yes	R	No	A,C,		No	15.13, 16.16.1,

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼吸 眼睛 遮防 及護		特殊要求 (見第15章)
								級	類	60°C 閃點							
十六烷/廿烷混合物													D			16.6.2	
正丁醚	1149	C	S/P	3	2G	Cont.	Inert	T4	IIB	No	R	F-T	A,D	No	No	15.4.6, 15.12	
甲基丙烯酸鹽丁酯		D	S	3	2G	Cont.	No		IIA	No	R	F-T	A,D	No	No	15.13, 16.6.1, 16.6.2	
正丁醛	1129	B	S/P	3	2G	Cont.	No	T3	IIA	No	O	F-T	A	No	No	15.16.1	
丁酸	2820	B	S/P	3	2G	Cont.	No			Yes	R	No	A	No	No	15.11.2, 15.11.1, 15.11.4, 15.11.6, 15.11.7, 15.11.8	
次氯酸鈣溶液		B	S/P	3	2G	Cont.	No		NF		R	No	No	No	No	15.16.1	
環烷酸鈣 (礦物油中)		A	P	3	2G	Open	No			Yes	O	No	A	No	No		
樟腦油	1130	B	S/P	2	2G	Cont.	No		IIA	No	O	F	B	No	No	15.19.6	
酚油		A	S/P	2	2G	Cont.	No			Yes	C	F-T	A	No	No	15.12, 15.19	
二硫化碳	1131	A	S/P	2	1G	Cont.	Pad+ inert	T5	IIC	No	C	F-T	C		E	15.3, 15.12, 15.15, 15.19	
四氯化碳	1846	B	S/P	3	2G	Cont.	No		NF		C	T	No	Z	E	15.12, 15.17, 15.19.6	
漆樹堅果油		D	S	3	2G	Cont.	No			Yes	R	T	B	No	No		

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	電氣設備	電氣設備	電氣設備	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇								級	類	60°C 閃點						
(未處理)																
甲基丙烯酸鹽 十六/廿烷混合物		III	S	3	2G	Open	No			Yes	O	No	A,C, D		No	15.13, 16.6.1, 16.6.2
氯乙酸 (80%或更少)	1750	C	S/P	2	2G	Cont.	No		NF		C	No	No	Y5	No	15.11.2, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.19, 16.2.9
氯苯	1134	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B		No	15.19.6
氯仿	1888	B	S/P	3	2G	Cont.	No		NF		R	T	No		E	15.12
粗氯乙醇		(D)	S	2	2G	Cont.	No		IIA	No	C	F-T	A		No	15.12, 15.19
鄰-氯硝基苯	1578	B	S/P	2	2G	Cont.	No			Yes	C	T	B,C, D		No	15.12, 15.17 to 15.19, 16.2.6, 16.2.9, 16A.2.2
2-或-3 氯丙酸	2511 (n)	(C)	S/P	3	2G	Open	No			Yes	O	No	A	Y1	No	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.7.9

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	電氣設備			測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 護	特殊要求 (見第15章)
								級	類	60°C 閃 點						
氯磺酸	1754	C	S/P	1	2G	Cont.	No		NF		C	T	No		E	15.11.2 to 15.11.8, 15.12, 15.16.2, 15.19
間一氯甲苯	2238	B	S/P	3	2G	Cont.	No			No	R	F-T	B,C		No	
鄰一氯甲苯	2238	A	S/P	3	2G	Cont.	No			No	R	F-T	B,C		No	
對一氯甲苯	2238	B	S/P	2	2G	Cont.	No			No	R	F-T	B,C		No	15.19.6, 16.2.9
氯甲苯 (混合異構體)	2238	A	S/P	2	2G	Cont.	No			No	R	F-T	B,C		No	15.19.6
煤焦石腦油溶劑		B	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D		No	
雜酚油 (煤焦)		(C)	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	B,D		No	
雜酚油 (水)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	B,D		No	15.19.6
甲酚 (混合異構體)	2076	A	S/P	2	2G	Open	No	T1	IIA	Yes	O	No	B		No	15.19.6
巴豆醛	1143	B	S/P	2	2G	Cont.	No	T3	IIB	No	R	F-T	A		E	15.12, 15.16.1, 15.17
環己烷	1145	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.9
環己醇		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7, 16.2.9
環己酮	1915	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	N5	No	
環己胺	2357	C	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D	N1	No	

a 貨物名稱 環己醇	b 聯合國編號	c 污染類別	d 危害性	e 船型	f 艙型	g 貨艙通氣	h 環境 貨艙控制	i' 級	i'' 電氣設備		j 測量	k 蒸氣探測	l 防火	m 構造材料	n 呼吸 防護及 護	o 特殊要求 (見第 15 章)
									i' 類	i'' 60°C 閃點						
對-異丙基苯甲烷	2046	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
癸烯		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
丙烯酸鹽癸酯		A	S/P	2	2G	Open	No	T3	IIA	Yes	O	No	A,C, D	N2	No	15.13, 15.19.6, 16.6.1, 16.6.2
癸醇 (全異構體)		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9(s)
二丁胺		C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	B,D	N4	No	
鄰苯二酸鹽二丁酯		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
鄰-二氯苯	1591	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	R	T	B,D	N5	No	15.19.6
1,1-二氯乙烷	2362	B	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	B		E	
二氯乙醚	1916	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	N5	No	
2,2-二氯異丙醚	2490	C	S/P	2	2G	Cont.	No			Yes	R	T	B,C, D	N5	No	15.12, 15.17, 15.19
二氯甲烷	1593	D	S	3	2G	Cont.	No	T1	IIA	Yes	R	T	No		No	
2,4-二氯酚	2021	A	S/P	2	2G	Cont.	Dry			Yes	R	T	B,C, D	N1	No	15.19.6
2,4-滴		(A)	S/P	3	2G	Open	No		NF		O	No	No	N1	No	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第15章)
二乙醇胺鹽溶液																
2,4-滴 二甲胺鹽 (70%或更少) 溶液		(A)	S/P	3	2G	Open	No		NF		O	No	No	NI	No	
2,4-滴,三異丙醇胺鹽溶液		(A)	S/P	3	2G	Open	No		NF		O	No	No	NI	No	
1,2-二氯丙烷	1279	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B	Z	No	15.12
1,3-二氯丙烷		B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B		No	15.12
1,3-二氯丙烯	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	B		E	15.12, 15.17 to 15.19
二氯丙烯/二氯丙烷混合物		B	S/P	2	2G	Cont.	No			No	C	F-T	B,C, D		E	15.12, 15.17 to 15.19
2,2-二氯丙酸		D	S	3	2G	Cont.	Dry			Yes	R	No	A	T5	No	15.11.2, 15.11.4, 15.11.6, 15.11.8
二乙醇胺		III	S	3	2G	Open	No	T1	IIA	Yes	O	No	A	N2	No	
二乙基胺	1154	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	NI	E	15.12
二乙氨基乙醇	2686	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D	NI	No	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	類	電氣設備	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																
二乙苯	2049	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
二甘醇-甲醚		C	P	3	2G	Open	No			Yes	O	No	A		No	
二乙撐三胺	2079	(D)	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	N2	No	
二乙基醚	1155	III	S	2	1G	Cont.	Inert	T4	IIB	No	C	F-T	A	N7	E	15.4, 15.14, 15.15, 15.19
焦磷酸	1902	C	S/P	3	2G	Open	No			Yes	O	No	B,C, D	N2	No	
酞酸二乙酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
硫酸二乙酯	1594	(B)	S/P	2	2G	Cont.	No			Yes	C	T	A,D	N3	No	15.19.6
雙酚 A 的 二乙環氧甘油醚		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9
二異丁胺	2361	(C)	S/P	2	2G	Cont.	No			No	R	F-T	B,D	N1	No	15.12.3, 15.19.6
二異丁烯	2050	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
酞酸鹽二異丁酯		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6
二異丙醇胺		C	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	A	N2	No	16.2.7, 16.2.9
二異丙胺	1158	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A	N2	E	15.12, 15.19

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼眼 吸睛 道防 及護			特殊要求 (見第15章)
								級	類	60°C 閃點								
二異丙苯 (全異構體)		A	P	2	2G	Open	No				Yes	O	No	A		No	15.19.6	
二甲胺溶液 (45%或更少)	1160	C	S/P	3	2G	Cont.	No	T2	IIA		No	R	F-T	C,D	NI	E	15.12	
二甲胺溶液 (大於45%但不超過55%)	1160	C	S/P	2	2G	Cont.	No				No	C	F-T	A,C, D	NI	E	15.12, 15.17, 15.19	
二甲胺溶液 (大於55%但不超過65%)	1160	C	S/P	2	2G	Cont.	No				No	C	F-T	A,C, D	NI	E	15.12, 15.14, 15.17, 15.19	
N,N-二甲基環己胺	2264	D	S/P	2	2G	Cont.	No				No	R	F-T	A,C	NI	No	15.12, 15.17, 15.19.6	
二甲基乙醇胺	2051	D	S	3	2G	Cont.	No	T3	IIA		No	R	F-T	A,D	N2	No		
二甲基甲酰胺	2265	D	S	3	2G	Cont.	No	T2	IIA		No	R	F-T	A,D		No		
二甲基氫亞磷酸鹽			S	3	2G	Cont.	No				Yes	R	T	A,D		No	15.12.1	
鄰苯二甲酸二甲酯		C	P	3	2G	Open	No				Yes	O	No	A		No		
二硝基甲苯 (熔化)	1600	B	S/P	2	2G	Cont.	No				Yes	C	T	A		No	15.12, 15.17, 15.19, 16.2.6, 16.2.9, 16A.2.2(p)	
1,4-二噁烷	1165	D	S	2	2G	Cont.	No	T4	IIB		No	C	F-T	A		No	15.12, 15.19	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																
松油精	2052	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
二苯基醚		A	P	3	2G	Open	No			Yes	O	No	A		No	
二苯甲烷	2489	(B)	S/P	2	2G	Cont.	Dry			Yes	C	T	C	N5	No	15.12, 15.16.2, 15.17, 15.19.6.
二異氰酸鹽										(b)		(b)	(c)			16.2.6, 16.2.9, 16A.2.2
二苯基/聯苯基醚混合物		A	P	3	2G	Open	No			Yes	O	No	A		No	
二正丙胺	2383	C	S/P	3	2G	Cont.	No			No	R	F-T	A	N2	No	15.12.3, 15.19.6
十二碳烯 (全異構體)		B	P	3	2G	Open	No			Yes	O	No	A		No	
乙醇十二酯		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6, 16.2.9, 16A.2.2
苯十二酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
十二烷基二苯醚		B	S/P	3	2G	Open	No		NF		O	No	No		No	16.2.6, 16.2.9, 16A.2.2
二磺酸酯溶液																
甲基丙烯酸十二酯		III	S	3	2G	Open	No			Yes	O	No	A,C		No	15.13
十二烷基/五烷基		III	S	3	2G	Open	No			Yes	O	No	A,C,		No	15.13, 16.6.1, 16.6.2
甲基丙烯酸混合物													D			

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	電氣設備			測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 護	特殊要求 (見第15章)
								級	類	60°C 閃點						
十二烷基酚		A	P	1	2G	Open	No			Yes	O	No	A	No	15.19	
表氯醇	2023	C	S/P	2	2G	Cont.	No	IIB		No	C	F-T	A	E	15.12, 15.17, 15.19	
乙醇胺	2491	D	S	3	2G	Open	No	IIA		Yes	O	F-T	A	N2	No	
2-乙基丁基胺	1172	C	P	3	2G	Cont.	No			No	R	F	A	No	15.19.6	
丙烯酸乙酯	1917	B	S/P	2	2G	Cont.	No	IIB		No	R	F-T	A	E	15.13, 16.6.1, 16.6.2	
乙胺	1036	C	S/P	2	1G	Cont.	No	T2	IIA	No	C	F-T	C,D	N2	E	15.12, 15.14
乙胺溶液 (72%或更少)	2270	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C	N1	E	15.12, 15.14, 15.17, 15.19
乙苯	1175	C	P	3	2G	Cont.	No			No	R	F	A	No	15.19.6	
正-乙基丁胺		(C)	S/P	3	2G	Cont.	No			No	R	F-T	A	N1	No	15.12.3, 15.19.6
正-乙基環己胺		D	S	3	2G	Cont.	No			No	R	F-T	A,C	N1	No	15.19.6
乙撐氯醇	1135	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	D		E	15.12, 15.17, 15.19
乙撐氯醇		(D)	S	3	2G	Open	No		IIB	Yes	O	No	A	No	No	
乙二胺	1604	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	N2	No	16.2.9
二溴化乙烯	1605	B	S/P	2	2G	Cont.	No		NF		O	T	No		E	15.12, 15.19.6, 16.2.9
二氯化乙烯	1184	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	B	N4	No	15.19

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	級	類	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸 防護及 護	特殊要求 (見第 15 章)
環氧乙烷/氧化丙烯混合物, 以重量計, 環氧乙烷含量不 超過 30%	2983	D	S	2	1G	Cont.	Inert	T2	IIB	No	C	F-T	A,C		No	15.8, 15.12, 15.14, 15.15, 15.19
丙烯酸 2-乙基己酯		D	S	3	2G	Open	No	T3	IIB	Yes	O	No	A		No	15.13, 16.6.1, 16.6.2
2-乙基己胺	2276	B	S/P	2	2G	Cont.	No			No	R	F-T	A	N2	No	15.12
乙叉降冰片烯		B	S/P	3	2G	Cont.	No			No	R	F-T	B,C, D	N4	No	15.12.1, 15.16.1, 15.19.6
甲基丙烯酸乙酯	2277	(D)	S	3	2G	Cont.	No		IIA	No	R	F-T	B,D		No	15.13, 16.6.1, 16.6.2
2-乙基-3-丙基丙烯醛		B	S/P	3	2G	Cont.	No		IIA	No	R	F-T	A		No	16.2.9
乙基甲苯		(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
脂肪醇 (C ₁₂ -C ₂₀)		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6, 16.2.9
甲醛溶液 (45%或更少)	1198 (d) 2209	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		E(e)	15.16.1
甲酸	1779	D	S	3	2G	Cont.	No	T1	IIA	No	R	T	A	Y2/ Y3	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
松香的富馬酸加合物,		B	P	3	2G	Open	No			Yes	O	No	No		No	16.2.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 護	特殊要求 (見第 15 章)
環己醇																
水分散體																
糠醛	1199	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.16.1
糠醇	2874	C	P	3	2G	Open	No			Yes	O	No	A		No	
戊二醛溶液 (50%或更少)		D	S	3	2G	Open	No		NF		O	No	No		No	15.16.1
三烷醋酸的縮水甘油酯 (C ₁₀)		B	P	3	2G	Open	No			Yes	O	No	A		No	
庚醇 (全異構體) (q)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
庚烯 (混合異構體)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
庚醋酸鹽		(B)	P	3	2G	Open	No			Yes	O	No	A		No	
己二胺溶液	1783	C	S/P	3	2G	Cont.	No			Yes	R	T	A	N2	No	15.19.6, 16.2.9
六甲撐亞胺	2493	C	S/P	2	2G	Cont.	No			No	R	F-T	A,C	N1	No	
i-己烯	2370	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
醋酸己酯	1233	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
鹽酸	1789	D	S	3	1G	Cont.	No		NF		R	T	No		E(f)	15.11
過氧化氫溶液 (60%以上並不超過 70%)	2015	C	S/P	2	2G	Cont.	No		NF		C	No	No		No	15.5.1 to 15.5.13, 15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	電氣設備	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																
過氧化氫溶液 (8%以上但不超過 60%)	2014 2984	C	S/P	3	2G	Cont.	No	NF			C	No	No		No	15.5.14 to 15.5.26, 15.18, 15.19.6
2-羥基丙烯酸酯		B	S/P	2	2G	Cont.	No			Yes	C	T	A		No	15.12, 15.13, 15.19.6, 16.6.1, 16.6.2
乙酸異戊酯	1104	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
乙酸異丁酯	1213	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
丙烯酸異丁酯	2527	D	S	2	2G	Cont.	No			No	R	F-T	A		No	15.13, 16.6.1, 16.6.2
異丁醛	2045	C	S/P	3	2G	Cont.	No			No	O	F-T	A		No	15.16.1
異佛爾酮二胺	2289	D	S	3	2G	Cont.	No			Yes	R	T	A	N2	No	
異佛爾酮二異氰酸酯	2290	B	S/P	2	2G	Cont.	Dry			Yes	C	T	C(c) D	N5	No	15.12, 15.16.2, 15.17, 15.19.6
異戊間二烯	1218	C	S/P	3	2G	Cont.	No			No	R	F	B		No	15.13, 15.14, 16.6.1, 16.6.2
異丙醇胺		C	S/P	3	2G	Open	No			Yes	O	F-T	A	N2	No	16.2.8, 16.2.9
異丙胺	1221	C	S/P	2	2G	Cont.	No			No	C	F-T	C,D	N2	E	15.12, 15.14, 15.19

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼眼 吸道防 及護	特殊要求 (見第15章)	
								級	類	60°C 閃點							
異丙苯	1918	B	P	3	2G	Cont.	No			No	R	F	A	No	15.19.6		
異丙醚	1159	D	S	3	2G	Cont.	Inert			No	R	F	A	No	15.4.6, 15.13.3, 15.19.6		
異戊醛	2058	C	S/P	3	2G	Cont.	Inert	T3	IIB	No	R	F-T	A	No	15.4.6, 15.16.1		
順丁烯二酐	2215	D	S	3	2G	Cont.	No			Yes	R	No	A(g) C	No			
巯基苯並噻唑； 鈉鹽溶液		(B)	S/P	3	2G	Open	No		NF		O	No	No	N1	No	16.2.9	
異亞丙基丙酮	1229	D	S	3	2G	Cont.	No	T2	IIB	No	R	T	A	No	15.19.5		
甲基丙烯酸	2531	D	S	3	2G	Cont.	No			Yes	R	T	A	No	15.13, 16.6.1		
甲基丙烯腈		(B)	S/P	2	2G	Cont.	No			No	C	F-T	A	N4 -Z	E	15.12, 15.13, 15.17, 15.19	
丙烯酸甲酯	1919	C	S/P	2	2G	Cont.	No	T1	IIB	No	R	F-T	B	E	15.13, 16.6.1, 16.6.7		
甲胺溶液 (42%或更少)	1235	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C, D	E	15.12, 15.17, 15.19		

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																
甲基戊基乙酸	1233	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
甲基戊基醇	2053	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
甲基戊基酮	1110	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
2-甲基-6-乙基苯胺		C	S/P	3	2G	Open	No			Yes	O	No	B,C, D		No	
2-甲基-5-乙基吡啶	2300	(B)	S/P	3	2G	Open	No		IIA	Yes	O	No	D	N4	No	
甲酸甲酯	1243	D	S	2	2G	Cont.	No			No	R	F-T	A		E	15.12, 15.14, 15.19
2-甲基-2-羥基-3-丁炔		III	S	3	2G	Cont.	No			No	R	F-T	A,C, D	N6	No	15.19.6
甲基丙烯酸甲酯	1247	D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	B		No	15.13, 16.6.1, 16.6.2
2-甲基-1-戊烯	2288	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
2-甲基吡啶	2313	B	S/P	2	2G	Cont.	No			No	C	F	A,C	N4	No	15.12.3, 15.19.6
4-甲基吡啶	2313	B	S/P	2	2G	Cont.	No			No	C	F-T	A,C, D	N4	No	15.12.3, 15.19, 16.2.9
N-甲基-2-吡咯烷酮		B	P	3	2G	Open	No			Yes	O	No	A		No	
水楊酸甲酯		(B)	P	3	2G	Open	No			Yes	O	No	A		No	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	電氣設備			測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 護		特殊要求 (見第15章)
								級	類	60°C 閃點							
α-甲基苯乙烯	2303	A	S/P	2	2G	Cont.	No	T1	IIB	No	R	F-T	D		No	15.13, 15.19.6, 16.6.1, 16.6.2	
嗎啡	2054	D	S	3	2G	Cont.	No	T2	IIA	No	R	F	A	N2, Z	No		
內燃機油抗爆化合物	1649	A	S/P	2	1G	Cont.	No	T4	IIA	No	C	F-T	B,C		E	15.6, 15.12, 15.18, 15.19	
苯(熔化)	2304	A	S/P	2	2G	Cont.	No	T1	IIA	Yes	R	No	A,D		No	15.19.6	
新癸酸		(B)	P	3	2G	Open	No			Yes	O	No	A		No		
硝酸(硫酸和硝酸的混合物)	1796	(C)	S/P	2	2G	Cont.	No		NF		C	T			E	15.11, 15.16.2, 15.17, 15.19	
硝酸 (70%及以上)	2031, 2032 (h)	C	S/P	2	2G	Cont.	No		NF		C	T			E	15.11, 15.19	
硝酸(少於70%)	2031	C	S/P	2	2G	Cont.	No		NF		R	T			E	15.11, 15.19	
硝基苯	1662	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	D		No	15.12, 15.17 to 15.19, 16.2.9	
鄰一硝基苯酚(熔化)	1663	B	S/P	2	2G	Cont.	No			Yes	C	T	A,C,		No	15.12, 15.19.6,	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	電氣設備	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
環己醇																16.2.6, 16.2.9, 16A.2.2
1-或 2-硝基丙烷	2608	D	S	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	
硝基丙烷 (60%) / 硝基乙烷 (40%) 混合物		D	S	3	2G	Cont.	No			No	R	F-T	A,C, u/	N4	No	
(鄰-和對-) 硝基甲苯	1664	C	S/P	2	2G	Cont.	No		IIB	Yes	C	T	B		No	15.12, 15.17, 15.19, 16.2.9
壬烯		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
壬醇		C	P	3	2G	Open	No			Yes	O	No	A		No	
壬基酚		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
辛醇 (全異構體)		C	P	3	2G	Open	No			Yes	O	No	A		No	
辛烯 (全異構體)		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
烯烴, 直鏈混合物		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.6, 16.2.9
α-烯烴. (C ₆ -C ₁₈) 混合物		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.6, 16.2.9

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境 貨艙控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼眼 吸睛 道防 及護		特殊要求 (見第15章)
								級	類	60°C 閃點							
發煙硫酸	1831	C	S/P	2	2G	Cont.	No	NF			C	T	No		E	15.11.2 to 15.11.8, 15.12.1, 15.16.2, 15.17, 15.19, 16.2.7	
仲醛	1264	C	S/P	3	2G	Cont.	No	T3	IIB	No	R	F	A		No	16.2.9	
五氯乙烷	1669	B	S/P	2	2G	Cont.	No		NF		R	T	No		No	15.12, 15.17, 15.19.6	
1, 3-戊二烯		C	S/P	3	2G	Cont.	No			No	R	F-T	B		No	15.13, 16.6	
正戊烷	1265	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6	
正戊烯 (全異構體)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.9	
全氣乙烯	1897	B	S/P	3	2G	Cont.	No		NF		R	T	No		No	15.12.1, 15.12.2	
酚	2312	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A		No	15.12, 15.19, 16.2.6, 16.2.9, 16A.2.2	
1-苯基-1-甲基乙烷		C	P	3	2G	Open	No			Yes	O	No	B		No		
磷酸	1805	D	S	3	2G	Open	No		NF		O	No	No		No	15.11.1 to 15.11.4, 15.11.6 to 15.11.8	
磷, 白色或黃色	1381 2447	A	S/P	1	1G	Cont.	Pad + (vent or inert)			No	C	No	C		E	15.7, 15.19	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
酞酐	2214	C	S/P	3	2G	Cont.	No	T1	IIA	Yes	R	No	D		No	16.2.9
蒽烯	2368	A	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
多乙烯多胺	2734 (i)	C	S/P	3	2G	Open	No			Yes	O	No	A	N2	No	16.2.9
聚甲撐聚苯異氰酸酯	2206 (i)	D	S	2	2G	Cont.	Dry			Yes (b)	C	T (b)	C(c), D	N5	No	15.12, 15.16.2, 15.19.6
苛性鉀溶液	1814	C	S/P	3	2G	Open	No		NF		O	No	No	N8	No	16.2.9
正丙醇胺		C	S/P	3	2G	Open	No			Yes	O	No	A,D	N2	No	16.2.9
β-丙醇酸內酯		D	S	2	2G	Cont.	No		IIA	Yes	R	T	A		No	
丙醛	1275	D	S	3	2G	Cont.	No			No	R	F-T	A		E	15.16.1, 15.17
丙酸	1848	D	S	3	2G	Cont.	No	T1	IIA	No	R	F	A	T1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
丙酸酐	2496	C	S/P	3	2G	Cont.	No	T2	IIA	Yes	R	T	A	T1	No	
丙腈	2404	C	S/P	2	1G	Cont.	No	T1	IIB	No	C	F-T	A,D		E	15.12, 15.17 to 15.19
正丙胺	1277	C	S/P	2	2G	Cont.	Inert	T2	IIA	No	C	F-T	C,D	N2	E	15.12, 15.19

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	級	電氣設備	測量	蒸氣探測	防火	構 造 材 料	呼 吸 道 防 護	特 殊 要 求 (見第15章)	
環己醇		(C)	P	3	2G	Cont.	No			R	F	A		No	15.19.6	
二聚丙烯	1280	D	S	2	2G	Cont.	Inert	T2	IIB	C	F-T	A,C	Z	No	15.8, 15.12.1, 15.14, 15.15, 15.19	
三聚丙烯	2057	B	P	3	2G	Cont.	No			R	F	A		No	15.19.6	
吡啶	1282	B	S/P	3	2G	Cont.	No	T1	IIA	R	F	A	N4	No		
松香		A	P	3	2G	Open	No			O	No	A		No		
松香皂 (不均化的溶液)		B	P	3	2G	Open	No			O	No	A		No		
硼氫化鈉 (15%或更少) / 燒鹼溶液		C	S/P	3	2G	Open	No		NF	O	No	No	N1	No	16.2.7	
氯酸鈉溶液 (50%或更少)		III	S	3	2G	Open	No		NF	O	No	No		No	15.9, 15.16.1, 15.19.6	
重鉻酸鈉溶液(70%或更少)		B	S/P	2	2G	Open	No		NF	C	No	No	N2	No	15.12.3, 15.19	
氫硫化鈉溶液(45%或更少)	2949	B	S/P	3	2G	Cont.	Vent or pad (gas)		NF	R	T	No		No	15.16.1, 16.2.9	
氫硫化鈉硫化鉍溶液		B	S/P	2	2G	Cont.	No	-	-	C	F-T	A,C	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼吸道防護及護	特殊要求 (見第 15 章)
								級	類	60°C 閃點						
氫氧化鈉溶液	1824	D	S	3	2G	Open	No	NF		O	No	No	N8	No		
次氯酸鈉溶液(15%或更少)	1791	B	S/P	3	2G	Cont.	No	NF		R	No	No	N5	No	15.16.1	
苯乙烯單體	2055	B	S/P	3	2G	Cont.	No	T1	IIA	No	O	F	N4, Z	No	15.13, 16.6.1, 16.6.2	
液態硫	2448	III	S	3	1G	Open	Vent or pad (gas)	T3		Yes (1)	O	F-T	No	No	15.10	
硫酸	1830	C	S/P	3	2G	Open	No		NF		O	No	No	No	15.11, 15.16.2, 16.2.8, 16.2.9	
廢硫酸	1832	C	S/P	3	2G	Open	No		NF		O	No	No	No	15.11, 15.16.2, 16.2.8, 16.2.9	
妥爾油，未加工和經過蒸餾的		A	P	3	2G	Open	No			Yes	O	No	A	No		
妥爾油酯酸 (少於 20%的樹脂酸)		(C)	P	3	2G	Open	No			Yes	O	No	A	No		
妥爾油皂 (不均化溶液)		B	P	3	2G	Open	No			Yes	O	No	A	No	16.2.6, 16.2.9	
四氫乙烷	1702	B	S/P	3	2G	Cont.	No		NF		R	T	No	No	15.12, 15.17	

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o	
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	電氣設備			測量	蒸氣探測	防火	構造材料	呼眼 吸睛 道防 及護			特殊要求 (見第 15 章)
								級	類	60°C 閃點								
四乙撐五胺	2320	D	S	3	2G	Open	No				Yes	O	No	A	NI	No		
四氫呋喃	2056	D	S	3	2G	Cont.	No	T3	IIB	No	No	R	F-T	A,D		No		
四氫化萘		C	P	3	2G	Open	No			Yes	Yes	O	No	A		No		
甲苯	1294	C	P	3	2G	Cont.	No			No	No	R	F	A		No	15.19.6	
甲苯二胺	1709	C	S/P	2	2G	Cont.	No			Yes	Yes	C	T	B,C, D	NI	E	15.12, 15.17, 15.19, 16.2.9	
甲苯二異氰酸酯	2078	C	S/P	2	2G	Cont.	Dry	T1	IIA	Yes	Yes	C	F-T	C(c), D	N4	E	15.12, 15.16.2, 15.17, 15.19, 16.2.9	
鄰甲苯胺	1708	C	S/P	2	2G	Cont.	No			Yes	Yes	C	T	A,C		No	15.12, 15.17, 15.19	
磷酸三丁酯		B	P	3	2G	Open	No			Yes	Yes	O	No	A		No		
1, 2, 4-三氯苯	2321	B	S/P	2	2G	Cont.	No			Yes	Yes	R	T	C		No	15.19.6, 16.2.9, 16A.2.2	
1, 1, 1-三氯乙烷	2831	B	P	3	2G	Open	No			Yes	Yes	O	No	A		No		
1, 1, 2-三氯乙烷		B	S/P	3	2G	Cont.	No		NF			R	T	No		No	15.12.1	
三氯乙烯	1710	B	S/P	3	2G	Cont.	No	T2	IIA	Yes	Yes	R	T	No		No	15.12, 15.16.1, 15.17	
1, 2, 3-三氯丙烷		B	S/P	2	2G	Cont.	No			Yes	Yes	C	T	B,C,		No	15.12, 15.17, 15.19	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境貨艙控制	級	電氣設備	測量	蒸氣探測	防火	構造材料	呼吸道防護	特殊要求 (見第 15 章)	
環己醇																
1,1,2-三氯基-1,2,2-三乙基氟		C	P 3	2G	2G	Open	No	NF		O	No	No	No	No	No	
磷酸三(含少於 1%的鄰位異構物)		A	P 2	2G	2G	Open	No		Yes	O	No	A		No	15.19.6	
磷酸三(含 1%或更多的鄰位異構物)	2574 (j)	A	S/P 1	2G	2G	Cont.	No	T2	IIA	Yes	C	B		No	15.12.3, 15.19	
三乙醇胺		D	S 3	2G	2G	Open	No		IIA	Yes	O	A	N1	No		
三乙胺	1296	C	S/P 2	2G	2G	Cont.	No	T2	IIA	No	R	B	N2	E	15.12	
三乙苯		A	P 2	2G	2G	Open	No			Yes	O	A		No	15.19.6	
三乙撐四胺	2259	D	S 3	2G	2G	Open	No	T2	IIA	Yes	O	A	N1	No		
三乙基亞磷酸鹽	2323		S 3	2G	2G	Cont.	No			No	R	A,D		No	15.12.1	
三甲基醋酸		D	S 3	2G	2G	Cont.	No			Yes	R	A,C	Y1	No	15.11.2 to 15.11.8	
1,2,4-三甲苯		B	P 3	2G	2G	Cont.	No			No	R	A		No	15.19.6	
三甲基己撐二胺(2,2,4-和 2,4,4-異構體)	2327	D	S 3	2G	2G	Open	No			Yes	O	A,C	N1	No	15.19.6	
三甲基己撐二異氰酸酯	2328	B	S/P 2	2G	2G	Cont.	Dry			Yes	C	A,		No	15.12, 15.16.2,	

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	級	電氣設備	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第15章)
(2,2,4-和2,4,4-異構體)													C(c)			15.17, 15.19.2
2,2,4-三甲基-1,3-戊二醇-1-異丁酸		C	P	3	2G	Open	No			Yes	O	No	A		No	
三甲基亞磷酸鹽	2329		S	3	2G	Cont.	No			No	R	F-T	A,D		No	15.12.1, 15.16.2, 15.19.6
三甲基磷酸鹽		A	P	1	2G	Open	No			Yes	O	No	A		No	15.19
松節油	1299	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
1-十一碳烯		B	P	3	2G	Open	No			Yes	O	No	A		No	
十一醇		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9, 16A.2.2 (r)
尿素, 氨溶液 (含氨水)		C	S/P	3	2G	Cont.	No		NF		R	T	A	N7	No	
正戊醛	2058	D	S	3	2G	Cont.	Inert	T3	IIB	No	R	F-T	A		No	15.4.6, 15.16.1
醋酸乙烯酯	1301	C	S/P	3	2G	Cont.	No	T2	IIA	No	O	F	A		No	15.13, 16.6.1, 16.6.2
乙烯基乙基醚	1302	C	S/P	2	1G	Cont.	Inert	T3	IIB	No	C	F-T	A	N6	E	15.4, 15.13, 15.14, 15.19, 16.6.1, 16.6.2
亞乙烯基二氯	1303	B	S/P	2	2G	Cont.	Inert	T2	IIA	No	R	F-T	B	N5	E	15.13, 15.14, 16.6.1, 16.6.2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
貨物名稱 環己醇	聯合國編號	污染類別	危害性	船型	艙型	貨艙通氣	環境控制	電氣設備	類	60°C 閃點	測量	蒸氣探測	防火	構造材料	呼吸防護及護	特殊要求 (見第 15 章)
新癸酸乙烯酯		C	S/P	3	2G	Open	No			Yes	O	No	B		No	15.13, 15.16.1, 16.6.1, 16.6.2
乙烯基甲苯	2618	A	S/P	3	2G	Cont.	No		IIA	No	R	F	D	NI	No	15.13, 15.19.6, 16.6.1, 16.6.2
石油溶劑，低 (15-20%) 芳烴含量	1300	(B)	P	2	2G	Cont.	No			No	R	F	A		No	15.19.6
二甲苯	1307	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.9
二甲酚	2261	B	S/P		2G	Open	No		IIA	Yes		No	B		No	16.2.9, 16A.2.2

- a 適用於 28%或以下但不低於 10%的氨水。
- b 如所載貨品含有閃點不超過 60°C c.c.的易燃溶劑，則應配備特別的電氣系統和易燃汽體探測器。
- c 水雖然適合於熄滅本腳註適用的化學品的露天火災，但不允許水污染裝有這些化學品的封閉貨艙，以防產生有害氣體的危險。
- d 如果閃點低於 60°C c.c.，只可使用聯合國編號 1198。
- e 適用於 45%或以下但不低於 5%的甲醛溶液。
- f 適用於不低於 10%的氫氯酸。
- g 由於可能引起爆炸，不能使用乾化學劑。
- h 聯合國編號 2032 分配給用於冒紅煙的硝酸。
- i 聯合國編號取決於物質的沸點。
- j 標有聯合國編號的這種物質含有多於 3%的鄰位異構物。
- k 黃磷或白磷在高於其自燃溫度的條件下運輸，因此閃點是不合適的。電氣設備要求可與閃點高於 60°C c.c.的物質的電氣設備要求相同。
- l 硫磺（熔化）的閃點高於 60°C c.c.，應證明電氣設備對所發出的氣體是安全的。
- m 聯合國編號 2672 係指 10-35%。
- n 聯合國編號 2511 只適用於 2-氯丙酸。
- o 二硝基甲苯不應裝在甲板艙內。

- p 應使用溫度感應器監測貨泵溫度以探查因貨泵故障引起的過熱現象。
- q 這些要求是基於閃點為 60°C 或以下的異構體。有些異構體閃點高於 60°C，因此，以易燃性為基礎的要求不適合於這些異構體。
- r 16A.2.2 只適用於 1-11 烷基醇。
- s 只適用於正癸醇。
- t 聯合國編號 1114 適用於苯。
- u 不應將乾化學品用作滅火劑。
- v 僅適用於對二甲苯。
- w 密閉空間應為甲酸蒸氣及一氧化碳氣體（分解產物）進行測試。

第 18 章——本規則不適用的化學品名單*

將第 18 章現有文本改為：

1 下列貨品不屬於本規則的範圍。在考慮散裝運輸危險性尚未得到評定的貨品時，可使用本清單作為指南。

2 雖然本章所列貨品不屬於本規則的範圍，但主管機關應注意到它們的安全運輸也需要有安全注意事項。因此主管機關應規定適當的安全要求。

第 18 章	聯合國編號
丙酮	1090
醇類 (C ₁₃ 及以上)	-
烷基 (C ₉ -C ₁₇) 苯	-
硫化鋁溶液	
氨基乙基二乙醇胺/氨基乙基乙醇胺，水溶液	
正-戊基醇	1105
仲-戊基醇	1105
叔-戊基醇	1105
戊基醇，伯	1105
丁烯齊聚物	
仲-醋酸丁酯	1123
正-丁醇	1120
仲-丁醇	1120
叔-丁醇	1120

* 貨品名稱並不經常與各種散化規則（第 A.212 (VII) 號決議）中的名稱相一致。

第 18 章	聯合國編號
丁二醇	-
-丁內酯	-
硬脂酸丁酯	-
烷基水楊酸鹽鈣	-
溴化鈣溶液	-
氯化鈣溶液	-
己內酰胺（熔化或水溶液）	-
膽鹼鹽酸鹽溶液	-
椰子酸酯甲酯	-
葡萄糖溶液	-
雙丙酮醇	1148
鄰苯二甲酸（C ₇ - C ₁₃ ）二烴酯	-
聯環戊二烯	2048
二甘醇	-
二甘醇丁酯	-
二甘醇丁酯醋酸鹽	-
二甘醇二丁酯	-
二甘醇二乙酯	-
二甘醇乙酯	-
二甘醇乙酯醋酸	-
二甘醇甲酯醋酸	-
二亞乙基酸三胺戊醋酸戊鈉鹽溶液	-
2-（2-乙基己基）己二酸酯	-
鄰苯二甲酸酯	-

第 18 章	聯合國編號
二庚基鄰苯二甲酸酯	-
己二基鄰苯二甲酸酯	-
二異丁基甲酮	1157
酞酸二異癸酯	-
二異壬基己二酸酯	-
二異丙基萘	-
二壬基鄰苯二甲酸	-
癸二酸鄰苯二甲酸	-
2, 2 二甲基辛酸	-
鄰苯二甲酸二辛酯	-
二縮丙二醇	-
二縮丙二醇甲醚	-
雙十一基鄰苯二甲酸	-
十二烷	-
2-乙氧基乙醇	1171
乙酸乙酯	1173
乙酰乙酸乙酯	-
乙醇	1170
乙基環己烷	-
碳酸亞乙酯	-
乙底酸	-
四鈉鹽溶液	
乙二醇	-
乙二醇二丁醚	2369

第 18 章	聯合國編號
乙二醇二丁醚醋酸	-
乙二醇甲基二丁醚	-
乙二醇甲醚	1188
乙二醇甲醚醋酸	1189
乙二醇苯醚	-
乙二醇叔二丁醚	-
乙二醇苯醚/二甘醇苯醚混合物	-
2-乙基己炔酸	-
甲酰胺	-
乙烯-乙烯乙酸共聚酯（乳濁液）	-
甘油	-
甘油，鈉鹽，溶液	-
花生油	-
正-庚烷	1206
六乙烯二胺己二酸酯（水中含量為 50%）	-
正-己烷	1208
1- 己醇	2282
己二醇	-
正-（羥乙基）乙二胺三乙酸	-
三納鹽溶液	-
異戊醇	1105
異丁醇	1212
異丁甲鹽酸	2393
異十二烷	-

第 18 章	聯合國編號
異戊烷	1265
異佛爾酮	-
乙酸異丙酯	1220
異丙醇	1219
乳酸	-
膠乳：	
丁苯橡膠膠乳羧化丁苯共聚物	-
木素硫酸，鹽（低化學需氧量）溶液	-
氯化鎂溶液	-
氫氧化鎂漿	-
3-甲氧-1-丁醇	-
3-甲氧丁醋酸	-
乙酸甲酯	1231
甲醇	1230
甲叔丁醚	2398
甲基乙基酮	1193
甲基異丁酮	1245
3-甲基-3-甲氧丁醇	-
3-甲基-3-甲氧丁醋酸	-
糖漿	-
壬烷	1920
油酸	-
辛烷	1262
烯烴（C ₁₃ 及以上，全異構體）	-

第 18 章	聯合國編號
2-烯烴 (C ₁₆ -C ₁₈)	-
正-烷烴 (C ₁₀ -C ₂₀)	-
石蠟	-
凡士林	-
石腦油	1255
聚氯化鋁溶液	-
聚丁烯	-
聚乙二醇	-
聚乙醇二甲醚	-
聚丙二醇	-
聚丙二醇甲醚	-
聚硅氧烷	-
正-乙酸丙酯	1276
正-丙醇	1274
丙二醇	-
丙二醇乙醚	-
丙二醇甲醚	-
四聚丙烯	2850
硅鋁鈉漿	-
環丁砜	-
十三烷醇	-
三甘醇	-
三甘醇丁醚	-
三異丙醇胺	-

第 18 章	聯合國編號
三羥甲基丙烷聚乙醇鹽	-
三丙二醇	-
三丙二醇甲醚	-
尿素溶液	-
尿素，硝酸銨溶液	-
尿素，磷酸銨溶液	-
尿素樹脂溶液	-
植物油（其他處未列名的）	-
水解植物蛋白溶液	-
葡萄酒	-

附錄

國際散裝運輸危險化學品合格證書標準格式

將現有證書的格式改為：

“國際散裝運輸危險化學品合格證書

(官方鋼印)

根據國際散裝運輸危險化學品船舶的構造和設備規則

(第 MSC.4 (48) 號和 MEPC19 (22) 號決議)¹

由 _____ (國家的正式全稱) _____ 政府授權

_____ (主管人員或主管機關承認的組織的正式全稱) _____ 頒發

船名	識別號或字母	登記港	總噸位	船型 (規則第 2.1.2 段) ²

安放龍骨或船舶處於相似建造階段的日期或 (如果是改裝船) 開始改為化學品船的日期：

本船還完全符合該規則下列修正案的要求：

本船被免於符合規則的下列條款：

此證書應使用發證國的官方語言寫成。如該語言既非英語也非法語，證書文本應包括英文或法文的譯文。

茲證明：

1 .1 本船舶已按照該規則第 1.5 節的規定進行了檢驗；

.2 檢驗表明本船的構造與設備符合該規則的有關要求；

*.3 本船為焚燒船，也符合第 19 章中的補充要求和經修訂的要求。

2 本船已配備了符合 73/78 防污公約附則 II 規則 5、5A 和規則 8 要求的程序及裝置標準的手冊；手冊所述的裝置及設備在所有方面均達到和符合該標準的有關要求。

3 本船在符合規則的全部有關作業規定的前提下可散裝運輸下列貨品：

產品 ^{3/4/}

裝運條件 ⁵

(貨艙號等)

* 繼續寫在有簽字並註明日期的附件 1 上。

在有簽字並註明日期的貨艙平面圖（附件 2）上標出本表所提及的貨艙號。

4 就本船而言，根據第*1.4 和*2.8.2 段，對規則的規定作了如下修改：

5 船舶裝貨必須：

*.1 符合經認可的裝貨手冊中規定的裝貨條件，裝貨手冊由主管機關的負責官員或主管機關承認的組織的負責官員蓋章、註明日期並簽字；

*.2 符合本證書所附的裝貨限制條件。

當需要不按上述指示裝船時，則須將證明所建議的裝船條件的合理性的必要的計算資料報送發證機關，由其以書面形式批准採用建議的裝船條件。**

本證書的有效期截止日為_____

但必須根據規則第 1.5 段進行檢驗。

頒發地點_____ 頒發時間 19_____

下面的簽字人聲明他經上述國家政府正式授權，頒發本證書。

（發證官員的簽字和/或

發證機關的鋼印）

* 可酌情刪去。

** 此段文字可不放在證書內，可作為證書的附本，但要有正式的簽字和章印。

填寫證書的說明

1 證書僅可頒發給懸掛 74 年安全公約和 73/78 防污公約締約國國旗的船舶。

2 船型：本欄下的項目必須符合所有有關的建議，如“2 型”係指在各方面均由本規則作了規定的那種 2 型。

3 貨品：應列出本規則第 17 章已列的貨品或者已由主管機關根據本規則第 1.1.3 段評定過的貨品。對於後面的“新”貨品，應註明臨時規定的任何特殊要求。就焚燒船而言，應寫上“化學廢液”來代替單個貨品名稱。

4 貨品：船舶適於裝運的貨品一覽表應包括規則未包括的 D 類有毒液體物質，並註明為“第 18 章 D 類”。

5 裝運條件：還應說明按照規則第 16A.2 段運輸 B 類或 C 類物質的限制條件。

年度和中期檢驗的背書

茲證明根據國際散裝運輸危險化學品船舶結構和設備規則第 1.5 段的要求進行的檢驗，本船符合規則的有關規定。

年度檢驗： 簽字：_____

(經正式授權的官員的簽字)

地點：_____

日期：_____

(視情況，可為主管當局的鋼印或章印)

年度*/中期*檢驗： 簽字：_____

(經正式授權的官員的簽字)

地點：_____

日期：_____

(視情況，可為主管當局的鋼印或章印)

年度*/中期*檢驗： 簽字：_____

(經正式授權的官員的簽字)

地點：_____

日期：_____

(視情況，可為主管當局的鋼印或章印)

* 可酌情刪去。

年度檢驗：

簽字：_____

(經正式授權的官員的簽字)

地點：_____

日期：_____

(視情況，可為主管當局的鋼印或章印)

國際散裝運輸危險化學品合格證書的附件 1
第 3 節所列貨品的清單的繼續及其裝運條件

貨 品	裝運條件 (艙號等)

日期

(與證書的相同)

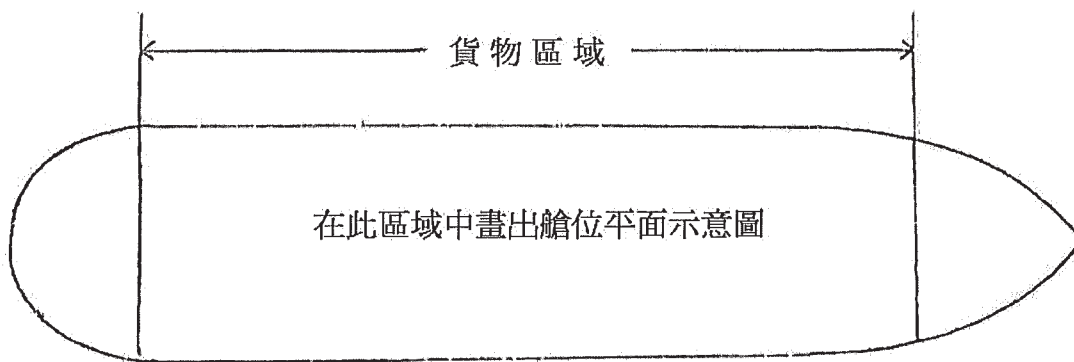
(發證官員的簽字和/或發證機關的鋼印)

國際散裝運輸危險化學品適航證書附件 2

艙位平面圖（樣本）

船名：

識別數碼或字母：



日期：

.....

（發證日期）

頒發證書官員簽字和 / 或發證

主管機關印章

RESOLUTION MSC.10(54)

Adopted on 29 April 1987

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
DANGEROUS CHEMICALS IN BULK
(IBC CODE)

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MEPC 19(22) by which the Marine Environment Protection Committee (MEPC) adopted the revised International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, which incorporates amendments to the Code adopted by the Maritime Safety Committee (MSC) by resolution MSC.4(48),

NOTING ALSO the recommendation of the MEPC that the MSC consider the adoption of the same amendments,

NOTING FURTHER article VIII(b) and regulation VII/8.1 of the International Convention for the Safety of Life at Sea, 1974, as amended, concerning the procedure for amending the IBC Code,

HAVING CONSIDERED at its fifty-fourth session amendments to the 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 Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES in accordance with article VIII(b)(vi)(2)(bb) of the Convention that the amendments shall be deemed to have been accepted on 29 April 1988 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 per cent of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3. INVITES Contracting Governments to note that in accordance with article VIII(b)(vii)(2) of the Convention the amendments shall enter into force on 30 October 1988 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General in conformity with article VIII(b)(v) of the Convention to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, as amended;

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

ANNEX .

1987 AMENDMENTS TO
THE INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT
OF SHIPS CARRYING DANGEROUS CHEMICALS IN BULK
(IBC CODE)

1.1 Application

1.1.1 In the introductory sentence of the existing text the words "or noxious" are inserted between the words "dangerous" and "liquid".

1.1.2A New paragraph 1.1.2A is added as follows:

"1.1.2A For the purpose of the 1974 SOLAS Convention, the Code does not apply to ships which are engaged in the carriage of products included in chapter 17 solely on the basis of their pollution characteristics and identified as such by an entry of "P" only in column d."

1.1.2B New paragraph 1.1.2B is added as follows:

"1.1.2B For the purposes of MARPOL 73/78, the Code applies only to chemical tankers as defined in Regulation 1(1) of Annex II thereof, which are engaged in the carriage of noxious liquid substances falling into category A, B or C and identified as such by an entry of "A, B or C" in column c."

1.1.5 The following sentence is added to the existing text of paragraph 1.1.5:

"This conversion provision does not apply to the modification of a ship referred to in regulation 1(12) of Annex II of MARPOL 73/78."

1.2 Hazards

1.2.6 New paragraph 1.2.6 is added as follows:

"1.2.6 Marine pollution hazard defined by:

- .1 bioaccumulation with attendant risk to aquatic life or human health or causing tainting to seafood;
- .2 damage to living resources;
- .3 hazard to human health; and
- .4 reduction of amenities."

1.3 Definitions

1.3.5 In the first sentence the words "or slop tanks" are inserted after the words "adjacent to cargo tanks".

1.3.18A, 1.3.18B and 1.3.27A The following new definitions are added:

"1.3.18A MARPOL 73/78 means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

1.3.18B Noxious liquid substance means any substance designated in appendix II to Annex II of MARPOL 73/78 or provisionally assessed under the provisions of regulation 3(4) of that Annex as falling into category A, B, C or D.

1.3.27A Standards for procedures and arrangements means the Standards for Procedures and Arrangements for the Discharge of Noxious Liquid Substances called for by Annex II of MARPOL 73/78 adopted by the Marine Environment Protection Committee at its twenty-second session by resolution MEPC 18(22) as may be amended by the Organization."

1.4 Equivalentents

1.4.2 After the words "1974 SOLAS CONVENTION" in the existing text, the words "and Parties to MARPOL 73/78" are inserted.

1.5 Surveys and certification

1.5.4.1 After the words "to a chemical tanker" in the existing text, the words "engaged in international voyages" are inserted.

1.5.5.1 In lines 1 and 2 of the existing text, the words "Contracting Government" are replaced by "Party to 1974 SOLAS Convention and Parties to MARPOL 73/78" and "Government of another State" by "another Party" respectively.

2.5.2 The title "Other damage" is deleted and the existing text of 2.5.2.1 is made 2.5.2 and the existing text of 2.5.2.2 is deleted.

2.6 Location of cargo tanks

2.6.1 The following sentence is added to the existing texts of subparagraphs .1 and .2

"This requirement does not apply to the tanks for diluted slops arising from tank washing."

2.9.3.1 At the end of the first sentence of the existing text, "m/rad" is replaced by "m.rad",

3.1 Cargo segregation

3.1.2 The existing text of the paragraph before .1 is amended to read:

"Cargoes, residues of cargoes or mixtures containing cargoes which react in a hazardous manner with other cargoes, residues or mixtures, should:"

10.2.3.5 In the existing text, the words "cofferdams within the cargo area" are replaced by the words "cofferdams within the cargo tank block".

12.1.8.1 In the existing text, the words "impellers and housing" are replaced by the words "impellers or housing".

15.5 Hydrogen peroxide solution over 60% but not over 70%.

The existing title is amended to read "Hydrogen peroxide solutions" and sub-title without a number is inserted to read "Hydrogen peroxide solutions over 60% but not over 70%".

15.5.1 In the existing text the words "over 60% but not over 70%" are inserted between the words "solutions" and "should".

15.5.14 The following text is added after the existing text of paragraph 15.5.13:

"Hydrogen peroxide solutions over 8% but not over 60% by weight".

15.5.14 The ship's shell plating should not form any boundaries of tanks containing this product.

15.5.15 Hydrogen peroxide should be carried in tanks thoroughly and effectively cleaned of all traces of previous cargoes and their vapours or ballast. Procedures for inspection, cleaning, passivation and loading of tanks should be in accordance with MSC/Circ.394. A certificate should be on board the vessel indicating that the procedures in the circular have been followed. The passivation requirement may be waived by an Administration for domestic shipments of short duration. Particular care in this respect is essential to ensure the safe carriage of hydrogen peroxide.

- .1 When hydrogen peroxide is carried no other cargoes should be simultaneously carried.
- .2 Tanks which have contained hydrogen peroxide may be used for other cargoes after cleaning in accordance with the procedures outlined in MSC/Circ.394.
- .3 Consideration in design should provide minimum internal tank structure, free draining, no entrapment and ease of visual inspection.

15.5.16 Cargo tanks and associated equipment should be either pure aluminium (99.5%) or solid stainless steel of types suitable for use with hydrogen peroxide (e.g. 304, 304L, 316, 316L, 316Ti). Aluminium should not be used for piping on deck. All non-metallic materials of construction for the containment system should neither be attacked by hydrogen peroxide nor contribute to its decomposition.

15.5.17 Cargo tanks should be separated by a cofferdam from fuel oil tanks or any other space containing materials incompatible with hydrogen peroxide.

15.5.18 Temperature sensors should be installed at the top and bottom of the tank. Remote temperature readouts and continuous monitoring should be located on the navigating bridge. If the temperature in the tank rises above 35°C, visible and audible alarms should activate on the navigating bridge.

15.5.19 Fixed oxygen monitors (or gas sampling lines) should be provided in void spaces adjacent to tanks to detect leakage of the cargo into these spaces. The enhancement of flammability by oxygen enrichments should be recognized. Remote readouts, continuous monitoring (if gas sampling lines are used, intermittent sampling is satisfactory) and visible and audible alarms similar to those for the temperature sensors should also be located on the navigating bridge. The visible and audible alarms should activate if the oxygen concentrations in these void spaces exceed 30% by volume. Two portable oxygen monitors should also be available as back-up systems.

15.5.20 As a safeguard against uncontrolled decomposition, a cargo jettisoning system should be installed to discharge the cargo overboard. The cargo should be jettisoned if the temperature rise of the cargo exceeds a rate of 2°C per hour over a five hour period or when the temperature in the tank exceeds 40°C.

15.5.21 Cargo tank venting systems with filtration should have pressure vacuum relief valves for normal controlled venting, and a device for emergency venting, should tank pressure rise rapidly as a result of an uncontrolled decomposition rate, as stipulated in 15.5.20. These venting systems should be designed in such a manner that there is no introduction of seawater into the cargo tank even under heavy sea conditions. Emergency venting should be sized on the basis of tank design pressure and tank size.

15.5.22 A fixed water spray system should be provided for diluting and washing away any concentrated solution spilled on deck. The areas covered by the waterspray should include the manifold/hose connections and the tank tops of those tanks designated for the carriage of hydrogen peroxide solutions. The minimum application rate should satisfy the following criteria:

- .1 The product should be diluted from the original concentration to 35% by weight within five minutes of the spill.
- .2 The rate and estimated size of the spill should be based upon maximum anticipated loading and discharge rates, the time required to stop flow of cargo in the event of tank overfill or a piping/hose failure, and the time necessary to begin application of dilution water with actuation at the cargo control location or on the navigating bridge.

15.5.23 Hydrogen peroxide should be stabilized to prevent decomposition. A certificate of stabilization should be provided by the manufacturer specifying:

- .1 name and amount of stabilizer added;
- .2 date stabilizer was added and duration of effectiveness;
- .3 any temperature limitations qualifying the stabilizer's effective lifetime;
- .4 the action to be taken should the product become unstable during the voyage.

15.5.24 Only those hydrogen peroxide solutions which have a maximum decomposition rate of 1.0% per year at 25°C should be carried. Certification from the shipper that the product meets this standard should be presented to the Master and kept on board. A technical representative of the manufacturer should be on board to monitor the transfer operations and have the capability to test the stability of the hydrogen peroxide. He should certify to the master that the cargo has been loaded in a stable condition.

15.5.25 Protective clothing that is resistant to hydrogen peroxide should be provided for each crew member involved in cargo transfer operations. Protective clothing should include coveralls that are non-flammable, suitable gloves, boots and eye protection.

15.5.26 During transfer of hydrogen peroxide the related piping system should be separate from all other systems. Cargo hoses used for transfer of hydrogen peroxide should be marked "for hydrogen peroxide transfer only".

15.8 The existing section 15.8 is replaced by the following:

"15.8 Propylene oxide and mixtures of ethylene oxide/propylene oxide with an ethylene oxide content of not more than 30% by weight.

15.8.1 Products transported under the provisions of this section should be acetylene free.

15.8.2 Unless cargo tanks are properly cleaned, these products should not be carried in tanks which have contained as one of the three previous cargoes any products known to catalyse polymerization, such as:

- .1 mineral acids (e.g. sulphuric, hydrochloric, nitric);
- .2 carboxylic acids and anhydrides (e.g. formic, acetic);
- .3 halogenated carboxylic acids (e.g. chloracetic);
- .4 sulphonic acids (e.g. benzene sulphonic);
- .5 caustic alkalis (e.g. sodium hydroxide, potassium hydroxide);
- .6 ammonia and ammonia solutions;
- .7 amines and amine solutions;
- .8 oxidizing substances.

15.8.3 Before loading, tanks should be thoroughly and effectively cleaned, to remove all traces of previous cargoes from tanks and associated pipework, except where the immediately prior cargo has been propylene oxide or ethylene oxide/propylene oxide mixtures. Particular care should be taken in the case of ammonia in tanks made of steel other than stainless steel.

15.8.4 In all cases, the effectiveness of cleaning procedures for tanks and associated pipework should be checked by suitable testing or inspection, to ascertain that no traces of acidic or alkaline materials remain that might create a hazardous situation in the presence of these products.

15.8.5 Tanks should be entered and inspected prior to each initial loading of these products to ensure freedom from contamination, heavy rust deposits and visible structural defects. When cargo tanks are in continuous service for these products, such inspections should be performed at intervals of not more than two years.

15.8.6 Tanks for the carriage of these products should be of steel or stainless steel construction.

15.8.7 Tanks for the carriage of these products may be used for other cargoes after thorough cleaning of tanks and associated pipework systems by washing or purging.

15.8.8 All valves, flanges, fittings and accessory equipment should be of a type suitable for use with the products and should be constructed of steel or stainless steel or other material acceptable to the Administration. The chemical composition of all material used should be submitted to the Administration for approval prior to fabrication. Discs or disc faces, seats and other wearing parts of valves should be made of stainless steel containing not less than 11% chromium.

15.8.9 Gaskets should be constructed of materials which do not react with, dissolve in, or lower the auto-ignition temperature of these products and which are fire resistant and possess adequate mechanical behaviour. The surface presented to the cargo should be polytetrafluorethylene (PTFE), or materials giving a similar degree of safety by their inertness. Spirally-wound stainless steel, with a filler of PTFE or similar fluorinated polymer, may be accepted by the Administration.

15.8.10 Insulation and packing, if used, should be of a material which does not react with, dissolve in, or lower the auto-ignition temperature of, these products.

15.8.11 The following materials are generally found unsatisfactory for gaskets, packing and similar uses in containment systems for these products and would require testing before being approved by the Administration:

- .1 Neoprene or natural rubber, if it comes into contact with the products.
- .2 Asbestos, or binders used with asbestos.
- .3 Materials containing oxides of magnesium, such as mineral wools.

15.8.12 Threaded joints should not be permitted in the cargo liquid and vapour lines.

15.8.13 Filling and discharge piping should extend to within 100 mm of the bottom of the tank or any sump pit.

15.8.14.1 The containment system for a tank containing these products should have a valved vapour return connection.

15.8.14.2 The products should be loaded and discharged in such a manner that venting of the tanks to atmosphere does not occur. If vapour return to shore is used during tank loading, the vapour return system connected to a containment system for the product should be independent of all other containment systems.

15.8.14.3 During discharging operations, the pressure in the cargo tank must be maintained above 0.07 bar gauge.

15.8.15 The cargo may be discharged only by deepwell pumps, hydraulically operated submerged pumps, or inert gas displacement. Each cargo pump should be arranged to ensure that the product does not heat significantly if the discharge line from the pump is shut off or otherwise blocked.

15.8.16 Tanks carrying these products should be vented independently of tanks carrying other products. Facilities should be provided for sampling the tank contents without opening the tank to atmosphere.

15.8.17 Cargo hoses used for transfer of these products should be marked "FOR ALKYLENE OXIDE TRANSFER ONLY".

15.8.18 Cargo tanks, void spaces and other enclosed spaces, adjacent to an integral gravity cargo tank carrying propylene oxide, should either contain a compatible cargo (those cargoes specified in 15.8.2 are examples of substances

considered incompatible) or be inerted by injection of a suitable inert gas. Any hold space in which an independent cargo tank is located should be inerted. Such inerted spaces and tanks should be monitored for these products and oxygen. The oxygen content of these spaces should be maintained below 2%. Portable sampling equipment is satisfactory.

15.8.19 In no case should air be allowed to enter the cargo pump or piping system while these products are contained within the system.

15.8.20 Prior to disconnecting shore-lines, the pressure in liquid and vapour lines should be relieved through suitable valves installed at the loading header. Liquid and vapour from these lines should not be discharged to atmosphere.

15.8.21 Propylene oxide may be carried in pressure tanks or in independent or integral gravity tanks. Ethylene oxide/propylene oxide mixtures should be carried in independent gravity tanks or pressure tanks. Tanks should be designed for the maximum pressure expected to be encountered during loading, conveying and discharging cargo.

15.8.22.1 Tanks for the carriage of propylene oxide with a design pressure less than 0,6 bar gauge and tanks for the carriage of ethylene oxide/propylene oxide mixtures with a design pressure less than 1,2 bar gauge should have a cooling system to maintain the cargo below the reference temperature.

15.8.22.2 The refrigeration requirement for tanks with a design pressure less than 0,6 bar gauge may be waived by the Administration for ships operating in restricted areas or on voyages of restricted duration, and account may be taken in such cases of any insulation of the tanks. The area and times of year for which such carriage would be permitted should be included in the conditions of carriage of the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.

15.8.23.1 Any cooling system should maintain the liquid temperature below the boiling temperature at the containment pressure. At least two complete cooling plants automatically regulated by variations within the tanks should be provided. Each cooling plant should be complete with the necessary

auxiliaries for proper operation. The control system should also be capable of being manually operated. An alarm should be provided to indicate malfunctioning of the temperature controls. The capacity of each cooling system should be sufficient to maintain the temperature of the liquid cargo below the reference temperature* of the system.

15.8.23.2 An alternative arrangement may consist of three cooling plants, any two of which should be sufficient to maintain the liquid temperatures below the reference temperature*.

15.8.23.3 Cooling media which are separated from the products by a single wall only should be non-reactive with the products.

15.8.23.4 Cooling systems requiring compression of the products should not be used.

15.8.24 Pressure relief valve settings should not be less than 0.2 bar gauge and for pressure tanks not greater than 7.0 bar gauge for the carriage of propylene oxide and not greater than 5.3 bar gauge for carriage of propylene oxide/ethylene oxide mixtures.

15.8.25.1 The piping system for tanks to be loaded with these products should be separated (as defined in 1.3.24) from piping systems for all other tanks, including empty tanks. If the piping system for the tanks to be loaded is not independent (as defined in 1.3.15), the required piping separation should be accomplished by the removal of spool pieces, valves, or other pipe sections, and the installation of blank flanges at these locations. The required separation applies to all liquid and vapour piping, liquid and vapour vent lines and any other possible connections, such as common inert gas supply lines.

15.8.25.2 These products may be transported only in accordance with cargo handling plans that have been approved by the Administration. Each intended loading arrangement should be shown on a separate cargo handling plan. Cargo

* See 15.8.22.1

handling plans should show the entire cargo piping system and the locations for installation of blank flanges needed to meet the above piping separation requirements. A copy of each approved cargo handling plan should be maintained on board the ship. The International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk should be endorsed to include reference to the approved cargo handling plans.

15.8.25.3 Before each initial loading of these products and before every subsequent return to such service, certification verifying that the required piping separation has been achieved should be obtained from a responsible person acceptable to the port Administration and carried on board the ship. Each connection between a blank flange and a pipeline flange should be fitted with a wire and seal by the responsible person to ensure that inadvertent removal of the blank flange is impossible.

15.8.26.1 No cargo tanks should be more than 98% liquid full at the reference temperature*.

15.8.26.2 The maximum volume to which a cargo tank should be loaded is:

$$V_L = 0.98 V \frac{d_R}{d_L}$$

where V_L = maximum volume to which the tank may be loaded

V = volume of the tank

d_R = relative density of cargo at the reference temperature*

d_L = relative density of cargo at the loading temperature and pressure.

15.8.26.3 The maximum allowable tank filling limits for each cargo tank should be indicated for each loading temperature which may be applied, and for the applicable maximum reference temperature, on a list to be approved by the Administration. A copy of the list should be permanently kept on board by the master.

* See 15.8.22.1

15.8.27 The cargo should be carried under a suitable protective padding of nitrogen gas. An automatic nitrogen make-up system should be installed to prevent the tank pressure falling below 0.07 bar gauge in the event of product temperature fall due to ambient conditions or maloperation of refrigeration systems. Sufficient nitrogen should be available on board to satisfy the demand of the automatic pressure control. Nitrogen of commercially pure quality (99.9% by volume) should be used for padding. A battery of nitrogen bottles connected to the cargo tanks through a pressure reduction valve satisfies the intention of the expression "automatic" in this context.

15.8.28 The cargo tank vapour space should be tested prior to and after loading to ensure that the oxygen content is 2% by volume or less.

15.8.29 A water spray system of sufficient capacity should be provided to blanket effectively the area surrounding the loading manifold, the exposed deck piping associated with product handling, and the tank domes. The arrangement of piping and nozzles should be such as to give a uniform distribution rate of $10 \text{ l/m}^2/\text{min}$. The water spray system should be capable of both local and remote manual operation, and the arrangement should ensure that any spilled cargo is washed away. Additionally, a water hose with pressure to the nozzle, when atmospheric temperatures permit, should be connected ready for immediate use during loading and unloading operations.

15.8.30 A remotely operated, controlled closing-rate, shut-off valve should be provided at each cargo hose connection used during cargo transfer."

16.2 Cargo information

Following new paragraphs 16.2.6, 16.2.7, 16.2.8 and 16.2.9 and a footnote for paragraph 16.2.8 are added to the existing texts:

"16.2.6 Where column "o" in the table of chapter 17 refers to this paragraph, the cargo's viscosity at 20°C should be specified on a shipping document and if the cargo's viscosity exceeds 25 mPa.s at 20°C, the temperature at which the cargo has a viscosity of 25 mPa.s should be specified in the shipping document.

16.2.7 Where column "m" in the table of chapter 17 refers to this paragraph, the cargo's viscosity at 20°C should be specified on a shipping document and if the cargo's viscosity exceeds 60 mPa.s at 20°C, the temperature at which the cargo has a viscosity of 60 mPa.s should be specified in the shipping document.

16.2.8 Where column "m" in the table of chapter 17 refers to this paragraph and the possibility exists that it will be unloaded within a special area*, the cargo's viscosity at 20°C should be specified on a shipping document and if the cargo's viscosity exceeds 25 mPa.s at 20°C, the temperature at which the cargo has a viscosity of 25 mPa.s should be specified in the shipping document.

16.2.9 Where column "m" in the table of chapter 17 refers to this paragraph, the cargo's melting point should be indicated in the shipping document.

* Special areas are defined in regulation 1(7) of Annex II to MARPOL 73/78."

16A New Chapter 16A is added to the existing text as follows:

"CHAPTER 16A - ADDITIONAL MEASURES FOR THE PROTECTION
OF THE MARINE ENVIRONMENT

16A.1 GENERAL

16A.1.1 The requirements of this chapter apply to ships carrying products noted as category A, B or C noxious liquid substances in chapter 17.

16A.2 CONDITION OF CARRIAGE

16A.2.1 The condition of carriage for products listed in the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk should reflect the requirements of regulation 5A of Annex II of MARPOL 73/78.

16A.2.2 A category B substance with a melting point equal to or greater than 15°C should not be carried in a cargo tank any boundary of which is formed by the ship's shell plating and should only be carried in a cargo tank fitted with a cargo heating system.

16A.3 PROCEDURES AND ARRANGEMENTS MANUAL

16A.3.1 Each ship should be provided with a Procedures and Arrangements Manual developed for the ship in accordance with the provisions of the Standards for Procedures and Arrangements and approved by the Administration.

16A.3.2 Each ship should be fitted with equipment and arrangements identified in its Procedures and Arrangements Manual."

Existing text of chapter 17 is replaced by the following:

CHAPTER 17 - SUMMARY OF MINIMUM REQUIREMENTS

EXPLANATORY NOTES*

Product name (column a)*	The product names are not identical with the names given in previous issues of the Code, or the BCH Code for explanation see index of chemicals.
UN number (column b)	The number relating to each product shown in the recommendations proposed by the United Nations Committee of Experts on the Transport of Dangerous Goods. UN numbers, where available, are given for information only.
Pollution category (column c)	The letter A, B, C or D means the pollution category assigned to each product under Annex II of MARPOL 73/78. "III" means the product was evaluated and found to fall outside the categories A, B, C or D. Pollution category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of their pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.
Hazards (column d)	S means that the product is included in the Code because of its safety hazards; P means that the product is included in the Code because of its pollution hazards; and S/P means that the product is included in the Code because of both its safety and pollution hazards.
Ship type (column e)	1 = ship type 1 (2.1.2) 2 = ship type 2 (2.1.2) 3 = ship type 3 (2.1.2)
Tank type (column f)	1 = independent tank (4.1.1) 2 = integral tank (4.1.2) G = gravity tank (4.1.3) P = pressure tank (4.1.4)

* Note by the Secretariat:

References to columns a - o in the other chapters of the Code will be amended according to the column designations shown here.

Tank vents (column g)	Open: open venting Cont: controlled venting SR: safety relief valve
Tank environmental control* (column h)	Inert: inerting (9.1.2.1) Pad: liquid or gas (9.1.2.2) Dry: drying (9.1.2.3) Vent: natural or forced (9.1.2.4)
Electrical equipment (column i)	T1 to T6 temperature classes** IIA, IIB or IIC apparatus groups** NF: non-flammable product (10.1.6) Yes: flashpoint exceeding 60°C (closed cup test) (10.1.6) No: flashing point not exceeding 60°C (closed cup test) (10.1.6)
Gauging (column j)	O: open gauging (13.1.1.1) R: restricted gauging (13.1.1.2) C: closed gauging (13.1.1.3) I: indirect gauging (13.1.1.3)
Vapour detection* (column k)	F: flammable vapours T: toxic vapours
Fire protection (column l)	A: alcohol-resistant foam B: regular foam, encompasses all foams that are not of an alcohol-resistant type, including fluoroprotein and aqueous-film-forming foam (AFFF) C: water-spray D: dry chemical No: no special requirements under this Code
Materials of construction (column m)	N: see 6.2.2 Z: see 6.2.3 Y: see 6.2.4 A blank indicates no special guidance given for materials of construction
Respiratory and eye protection* (column n)	E: see 14.2.8

* "No" indicates nil requirements.

** Temperature classes and apparatus groups as defined in International Electrotechnical Commission Publication 79 (part 1, appendix D, parts 4, 8 and 12). A blank indicates that data are currently not available.

a	b	c	d	e	f	g	h	i	j		k	l	m	n	o
									Electrical Equipment	Flashpoint 60°C					
Product Name	UN Number	Pollution Category	Hazards	Ship Type	Tank Type	Tank Vents	Tank Environmental Control	Class	Group	Flashpoint 60°C	Vapour Detection	Fire Protection	Materials of Construction	Respiratory and Eye Protection	Special Requirements (see Chapter 15)
Acetic acid	2789	C	S/P	3	2G	Cont.	No	T1	IIA	No	R F	A	Y1, Z	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.2.9
Acetic anhydride	1715	C	S/P	2	2G	Cont.	No	T2	IIA	No	R F-T	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Acetone cyanohydrin	1541	A	S/P	2	2G	Cont.	No	T1	IIA	Yes	C T	A	Y1	E	15.1, 15.12, 15.17 to 15.19, 16.6
Acetonitrile	1648	III	S	2	2G	Cont.	No	T2	IIA	No	R F-T	A		No	15.12
Acrylamide solution, (50% or less)	2074	D	S	2	2G	Open	No		NF		C No	No		No	15.12.3, 15.13, 15.16.1, 15.19.6, 16.6.1
Acrylic acid	2218	D	S	3	2G	Cont.	No	T2	IIA	No	R F-T	A	Y1	No	15.13, 16.6.1
Acrylonitrile	109J	B	S/P	2	2G	Cont.	No	T1	IIB	No	C F-T	A	N3, Z	E	15.12, 15.13, 15.17, 15.19
Adiponitrile	2205	D	S	3	2G	Cont.	No		IIB	Yes	R T	A		No	
Alkyl acrylate vinyl pyridine copolymer in toluene		(C)	P	3	2G	Cont.	No			No	R F	A		No	15.19.6

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
Alkyl benzene sulphonic acid	2584 2586	C	S/P	3	2G	Open	No			Yes		U	No	B		No	
Allyl alcohol	1098	B	S/P	2	2G	Cont.	No	T2	IIB	No		C	F-T	A		E	15.12, 15.17, 15.19
Allyl chloride	1100	B	S/P	2	2G	Cont.	No	T2	IIA	No		C	F-T	A		E	15.12, 15.17, 15.19
2-(2-Aminoethoxy)ethanol	3055	D	S	3	2G	Open	No			Yes		O	No	A, C, D	N2	No	15.19.6
Aminoethyl ethanamine		(D)	S	3	2G	Open	No	T2	IIA	Yes		O	No	A	N1	No	
N-Aminoethyl piperazine	2815	D	S	3	2G	Cont.	No			Yes		R	T	A, C, D	N2	No	15.19.6
Ammonia aqueous (28% or less)	2672 (m)	C	S/P	3	2G	Cont.	No		NF			R	T	C	N4	E(a)	
Ammonium nitrate solution, (93% or less)	2426	D	S	2	1G	Open	No		NF			O	No	No	Y4	No	15.2, 15.11.4, 15.11.6, 15.18, 15.19.6
Ammonium sulphide solution (45% or less)	2683	B	S/P	2	2G	Cont.	No	-	-	No		C	F-T	A, C	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6
n-Amyl acetate	1104	C	P	3	2G	Cont.	No			No		R	F	A		No	15.19.6
sec-Amyl acetate	1104	C	P	3	2G	Cont.	No			No		R	F	A		No	15.19.6
Amyl acetate, commercial	1104	C	P	3	2G	Cont.	No			No		R	F	A		No	15.19.6
Aniline	1547	C	S/P	2	2G	Cont.	No	T1	IIA	Yes		C	T	A		No	15.12, 15.17, 15.19

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
Benzene and mixtures having 10% benzene or more	1114 (t)	C	S/P	3	2G	Cont.	No	T1	IIA	No	R	F-T	B		No	15.12.1, 15.17, 16.2.9
Benzenesulphonyl chloride	2225	D	S	3	2G	Cont.	No			Yes	R	T	B,D	NI	No	15.19.6
Benzyl alcohol		C	P	3	2G	Open	No			Yes	O	No	A		No	
Benzyl chloride	1738	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	B		E	15.12, 15.13, 15.17, 15.19
n-Butyl acetate	1123	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
n-Butyl acrylate	2348	D	S	2	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.13, 16.6.1, 16.6.2
Butylamine (all isomers)	1125 1214	C	S/P	2	2G	Cont.	No			No	R	F-T	A	NI	E	15.12, 15.17, 15.19.6
Butyl benzyl phthalate		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture		D	S	3	2G	Cont.	No			Yes	R	No	A,C, D		No	15.13, 16.6.1, 16.6.2
n-Butyl ether	1149	C	S/P	3	2G	Cont.	Inert	T4	IIB	No	R	F-T	A,D		No	15.4.6, 15.12
Butyl methacrylate		D	S	3	2G	Cont.	No		IIA	No	R	F-T	A,D		No	15.13, 16.6.1, 16.6.2
n-Butyraldehyde	1129	B	S/P	3	2G	Cont.	No	T3	IIA	No	O	F-T	A		No	15.16.1
Butyric acid	2820	B	S/P	5	2G	Cont.	No			Yes	R	No	A	YI	No	15.11.2, 15.11.3, 15.11.4, 15.11.6, 15.11.7, 15.11.8

a	D	C	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
Calcium hypochlorite solution		B	S/P	3	2G	Cont.	No		NF		R	No	No	N5	No	15.16.1
Calcium naphthenate in mineral oil		A	P	3	2G	Open	No			Yes	O	No	A		No	
Camphor oil	1130	B	S/P	2	2G	Cont.	No		IIA	No	O	F	B		No	15.19.6
Carbolic oil		A	S/P	2	2G	Cont.	No			Yes	C	F-T	A		No	15.12, 15.19
Carbon disulphide	1131	A	S/P	2	1G	Cont.	Pad + inert	T5	IIIC	No	C	F-T	C		E	15.3, 15.12, 15.15, 15.19
Carbon tetrachloride	1846	B	S/P	3	2G	Cont.	No		NF		C	T	No	Z	E	15.12, 15.17, 15.19.6
Cashew nut shell oil (untreated)		D	S	3	2G	Cont.	No			Yes	R	T	B		No	
Cetyl/Eicosyl metacrylate mixture		III	S	3	2G	Open	No			Yes	O	No	A,C, D		No	15.13, 16.6.1, 16.6.2
Chloroacetic acid, (80% or less)	1750	C	S/P	2	2G	Cont.	No		NF		C	No	No	Y5	No	15.11.2, 15.11.4, 15.11.6, 15.11.7, 15.11.8, 15.12.3, 15.19, 16.2.9
Chlorobenzene	1134	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B		No	15.19.6
Chloroform	1888	B	S/P	3	2G	Cont.	No		NF		R	T	No		E	15.12
Chlorohydrins, crude		(D)	S	2	2G	Cont.	No		IIA	No	C	F-T	A		No	15.12, 15.19
o-Chloronitrobenzene	1578	B	S/P	2	2G	Cont.	No			Yes	C	T	B,C, D		No	15.12, 15.17 to 15.19, 16.2.6, 16.2.9, 16A.2.2

a	b	c	d	e	f	g	h	i	i1	i2	j	k	l	m	n	o
2- or 3-Chloropropionic acid	2511 (n)	(C)	S/P	3	2G	Open	No		Yes		O	No	A	Y1	No	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.2.9
Chlorosulphonic acid	1754	C	S/P	1	2G	Cont.	No	NF		C	T	No			E	15.11.2 to 15.11.8, 15.12, 15.16.2, 15.19
m-Chlorotoluene	2238	B	S/P	3	2G	Cont.	No		No	R	F-T	B,C			No	
o-Chlorotoluene	2238	A	S/P	3	2G	Cont.	No		No	R	F-T	B,C			No	
p-Chlorotoluene	2238	B	S/P	2	2G	Cont.	No		No	R	F-T	B,C			No	15.19.6, 16.2.9
Chlorotoluenes (mixed isomers)	2238	A	S/P	2	2G	Cont.	No		No	R	F-T	B,C			No	15.19.6
Coal tar naphtha solvent		B	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D		No	
Creosote (coal tar)		(C)	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	B,D		No	
Creosote (wood)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	B,D		No	15.19.6
Cresols (mixed isomers)	2076	A	S/P	2	2G	Open	No	T1	IIA	Yes	O	No	B		No	15.19.6
Crotonaldehyde	1143	B	S/P	2	2G	Cont.	No	T3	IIB	No	R	F-T	A		E	15.12, 15.16.1, 15.17
Cyclohexane	1145	C	P	3	2G	Cont.	No		No	R	F	A			No	15.19.6, 16.2.9
Cyclohexanol		C	P	3	2G	Open	No		Yes	O	No	A			No	16.2.7, 16.2.9
Cyclohexanone	1915	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	N5	No	
Cyclohexylamine	2357	C	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D	N1	No	

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
p-Cymene	2046	C	P	3	2G	Cont.	No				No	R	F	A	No	15.19.6
Decene		B	P	3	2G	Cont.	No				No	R	F	A	No	15.19.6
Decyl acrylate		A	S/P	2	2G	Open	No	T3	IIA	Yes	O	No	A,C, D	N2	No	15.13, 15.19.6, 16.6.1, 16.6.2
Decyl alcohol (all isomers)		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9(s)
Dibutylamine		C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	B,D	N4	No	
Dibutyl pthalate		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
o-Dichlorobenzene	1591	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	R	T	B,D	N5	No	15.19.6
1,1-Dichloroethane	2362	B	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	B		E	
Dichloroethyl ether	1916	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	N5	No	
2,2-Dichloroisopropyl ether	2490	C	S/P	2	2G	Cont.	No			Yes	R	T	B,C, D	N5	No	15.12, 15.17, 15.19
Dichloromethane	1593	D	S	3	2G	Cont.	No	T1	IIA	Yes	R	T	No		No	
2,4-Dichloropnenol	2021	A	S/P	2	2G	Cont.	Dry			Yes	R	T	B,C, D	N1	No	15.19.6
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution		(A)	S/P	3	2G	Open	No		NF		O	No	No	N1	No	
2,4-Dichlorophenoxyacetic acid, dimethylamine salt (70% or less) solution		(A)	S/P	3	2G	Open	No		NF		O	No	No	N1	No	

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution		(A)	S/P	3	2G	Open	No		NE	O	No	N1	No	
1,2-Dichloropropane	1279	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B	15.12
1,3-Dichloropropane		B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	B	15.12
1,3-Dichloropropene	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	B	15.12, 15.17 to 15.19
Dichloropropene/Dichloropropane mixtures		B	S/P	2	2G	Cont.	No			No	C	F-T	B,C,D	15.12, 15.17 to 15.19
2,2-Dichloropropionic acid		D	S	3	2G	Cont.	Dry			Yes	R	No	A	15.11.2, 15.11.4, 15.11.6, 15.11.8
Diethanolamine		III	S	3	2G	Open	No	T1	IIA	Yes	O	No	A	
Diethylamine	1154	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	15.12
Diethylaminoethanol	2686	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D	No
Diethylbenzene	2049	C	P	3	2G	Cont.	No			No	R	F	A	15.19.6
Diethylene glycol methyl ether		C	P	3	2G	Open	No			Yes	O	No	A	No
Diethylenetriamine	2079	(D)	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	No
Diethyl ether	1155	III	S	2	1G	Cont.	Inert	T4	IIB	No	C	F-T	A	15.4, 15.14, 15.15, 15.19
Di-(2-ethylhexyl) phosphoric acid	1902	C	S/P	3	2G	Open	No			Yes	O	No	B,C,D	No

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Diethyl phthalate		C	P	3	2G	Open	No			O	No	A		No
Diethyl sulphate	1594	(B)	S/P	2	2G	Cont.	No			C	T	A,D	N3	No
Diglycidyl ether of Bisphenol A		B	P	3	2G	Open	No			O	No	A		No
Diisobutylamine	2361	(C)	S/P	2	2G	Cont.	No			R	F-T	B,D	N1	No
Diisobutylene	2050	B	P	3	2G	Cont.	No			R	F	A		No
Diisobutyl phthalate		B	P	3	2G	Open	No			O	No	A		No
Diisopropanolamine		C	S/P	3	2G	Open	No	T2	I1A	Yes	O	A	N2	No
Diisopropylamine	1158	C	S/P	2	2G	Cont.	No			C	F-T	A	N2	E
Diisopropylbenzene (all isomers)		A	P	2	2G	Open	No			O	No	A		No
Dimethylamine solution (45% or less)	1160	C	S/P	3	2G	Cont.	No	T2	I1A	No	R	F-T	C,D	N1
Dimethylamine solution (greater than 45% but not greater than 55%)	1160	C	S/P	2	2G	Cont.	No			C	F-T	A,C, D	N1	E
Dimethylamine solution (greater than 55% but not greater than 65%)	1160	C	S/P	2	2G	Cont.	No			C	F-T	A,C, D	N1	E
N,N-Dimethylcyclohexylamine	2264	C	S/P	2	2G	Cont.	No			R	F-T	A,C	N1	No
Dimethyl ethanolamine	2051	D	S	3	2G	Cont.	No	T3	I1A	No	R	F-T	A,D	N2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
Dimethylformamide	2265	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-I	A,D		No	
Dimethyl hydrogen phosphite			S	3	2G	Cont.	No			Yes	R	T	A,D		No	15.12.1
Dimethyl phthalate		C	P	3	2G	Open	No			Yes	O	No	A		No	
Dinitrotoluene (molten)	1600	B	S/P	2	2G (o)	Cont.	No			Yes	C	T	A		No	15.12, 15.17, 15.19, 16.2.6, 16.2.9, 16A.2.2(p)
1,4-Dioxane	1165	D	S	2	2G	Cont.	No	T4	IIB	No	C	F-T	A		No	15.12, 15.19
Dipentene	2052	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Diphenyl ether		A	P	3	2G	Open	No			Yes	O	No	A		No	
Diphenylmethane diisocyanate	2489	(B)	S/P	2	2G	Cont.	Dry			Yes (b)	C	T (b)	C(c) D	N5	No	15.12, 15.16.2, 15.17, 15.19.6, 16.2.6, 16.2.9, 16A.2.2
Diphenyl oxide/Diphenyl phenyl ether mixture		A	P	3	2G	Open	No			Yes	O	No	A		No	
Di-n-propylamine	2383	C	S/P	3	2G	Cont.	No			No	R	F-T	A	N2	No	15.12.3, 15.19.6
Dodecene (all isomers)		B	P	3	2G	Open	No			Yes	O	No	A		No	
Dodecyl alcohol		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6, 16.2.9, 16A.2.2
Dodecyl benzene		C	P	3	2G	Open	No			Yes	O	No	A		No	
Dodecyl diphenyl oxide disulphonate solution		B	S/P	3	2G	Open	No		NE		O	No	No		No	16.2.6, 16.2.9, 16A.2.2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
Dodecyl methacrylate		III	S	3	2G	Open	No			Yes	O	No	A, C		No	15.13
Dodecyl/Pentadecyl methacrylate mixture		III	S	3	2G	Open	No			Yes	O	No	A, C, D		No	15.13, 16.6.1, 16.6.2
Dodecyl phenol		A	P	1	2G	Open	No			Yes	O	No	A		No	15.19
Epichlorohydrin	2023	C	S/P	2	2G	Cont.	No		IIB	No	C	F-T	A		E	15.12, 15.17, 15.19
Ethanolamine	2491	D	S	3	2G	Open	No	T2	IIA	Yes	O	F-T	A	N2	No	
2-Ethoxyethyl acetate	1172	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Ethyl acrylate	1917	B	S/P	2	2G	Cont.	No	T2	IIB	No	R	F-T	A		E	15.13, 16.6.1, 16.6.2
Ethylamine	1036	C	S/P	2	1G	Cont.	No	T2	IIA	No	C	F-T	C, D	N2	E	15.12, 15.14
Ethylamine solutions, (7% or less)	2270	C	S/P	2	2G	Cont.	No			No	C	F-T	A, C	N1	E	15.12, 15.14, 15.17, 15.19
Ethylbenzene	1175	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
N-Ethylbutylamine		(C)	S/P	3	2G	Cont.	No			No	R	F-T	A	N1	No	15.12.3, 15.19.6
N-Ethylcyclohexylamine		D	S	3	2G	Cont.	No			No	R	F-T	A, C	N1	No	15.19.6
Ethylene chlorohydrin	1135	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	D		E	15.12, 15.17, 15.19
Ethylene cyanohydrin		(D)	S	3	2G	Open	No		IIB	Yes	O	No	A		No	
Ethylenediamine	1604	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	N2	No	16.2.9
Ethylene dibromide	1605	B	S/P	2	2G	Cont.	No		NF		C	T	No		E	15.12, 15.19.6, 16.2.9

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
Ethylene dichloride	1184	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	B	N4	No	15.19
Ethylene oxide/propylene oxide mixtures with an ethylene oxide content of not more than 30% by weight	2983	D	S	2	1G	Cont.	Inert	T2	IIB	No	C	F-T	A,C		No	15.8, 15.12, 15.14, 15.15, 15.19
2-Ethylhexyl acrylate		D	S	3	2G	Open	No	T3	IIB	Yes	O	No	A		No	15.13, 16.6.1, 16.6.2
2-Ethylhexylamine	227b	B	S/P	2	2G	Cont.	No			No	R	F-T	A	N2	No	15.12
Ethylidene norbornene		B	S/P	3	2G	Cont.	No			No	R	F-T	B,C, D	N4	No	15.12.1, 15.16.1, 15.19.6
Ethyl methacrylate	2277	(D)	S	3	2G	Cont.	No		IIA	No	R	F-T	B,D		No	15.13, 16.6.1, 16.6.2
2-Ethyl-3-propylacrolein		B	S/P	3	2G	Cont.	No		IIA	No	R	F-T	A		No	16.2.9
Ethyltoluene		(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Fatty alcohols(C ₁₂ -C ₂₀)		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6, 16.2.9
Formaldehyde solutions (45% or less)	1198 (d) 2209	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		E(e)	15.16.1
Formic acid	1779	D	S	3	2G	Cont.	No	T1	IIA	No	R	T(w)	A	Y2/ Y3	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Fumaric adduct of rosin, water dispersion		B	P	3	2G	Open	No			Yes	O	No	No		No	16.2.6
Furfural	1199	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.16.1
Furfuryl alcohol	2874	C	P	3	2G	Open	No			Yes	O	No	A		No	

s	D	C	d	e	f	g	h	i	j	k	l	m	n	o
Glutaraldehyde solutions (50% or less)		D	S	3	2G	Open	No	NF	O	No	No		No	15.16.1
Glycidyl ester of C10 trialkylacetic acid		B	P	3	2G	Open	No	Yes	O	No	A		No	
Heptanol (all isomers)(q)		C	P	3	2G	Cont.	No	No	R	F	A		No	15.19.6
Heptene (mixed isomers)		C	P	3	2G	Cont.	No	No	R	F	A		No	15.19.6
Heptyl acetate		(B)	P	3	2G	Open	No	Yes	O	No	A		No	
Hexamethylenediamine solution	1723	C	S/P	3	2G	Cont.	No	Yes	R	T	A	N2	No	15.19.6, 16.2.9
Hexamethyleneimine	2493	C	S/P	2	2G	Cont.	No	No	R	F-T	A,C	N1	No	
1-Hexene	2370	C	P	3	2G	Cont.	No	No	R	F	A		No	15.19.6
Hexyl acetate	1233	B	P	3	2G	Cont.	No	No	R	F	A		No	15.19.6
Hydrochloric acid	1789	D	S	3	1G	Cont.	No	NF	R	T	No		E(F)	15.11
Hydrogen peroxide solutions (over 60% but not over 70%)	2015	C	S/P	2	2G	Cont.	No	NF	C	No	No		No	15.5.1 to 15.5.13, 15.19.6
Hydrogen peroxide solutions (over 8% but not over 60%)	2014 2984	C	S/P	3	2G	Cont.	No	NF	C	No	No		No	15.5.14 to 15.5.26, 15.18, 15.19.6
2-Hydroxyethyl acrylate		B	S/P	2	2G	Cont.	No	Yes	C	T	A		No	15.12, 15.13, 15.19.6, 16.6.1, 16.6.2
Isoamyl acetate	1104	C	P	3	2G	Cont.	No	No	R	F	A		No	15.19.6

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
Isobutyl acetate	1213	C	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Isobutyl acrylate	2527	D	S	2	2G	Cont.	No	T2	IIB	No	No	R	F-T	A		No	15.13, 16.6.1, 16.6.2
Isobutyraldehyde	2045	C	S/P	3	2G	Cont.	No	T3	IIA	No	No	O	F-T	A		No	15.16.1
Isophorone diamine	2289	D	S	3	2G	Cont.	No				Yes	R	T	A	N2	No	
Isophorone diisocyanate	2290	B	S/P	2	2G	Cont.	Dry				Yes	C	T	C(c) D	N5	No	15.12, 15.16.2, 15.17, 15.19.6
Isoprene	1218	C	S/P	3	2G	Cont.	No	T3	IIB	No	No	R	F	B		No	15.13, 15.14, 16.6.1, 16.6.2
Isopropanolamine		C	S/P	3	2G	Open	No	T2	IIA	Yes		O	F-T	A	N2	No	16.2.8, 16.2.9
Isopropylamine	1221	C	S/P	2	2G	Cont.	No	T2	IIA	No	No	C	F-T	C,D	N2	E	15.12, 15.14, 15.19
Isopropylbenzene	1918	B	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Isopropyl ether	1159	D	S	3	2G	Cont.	Inert				No	E	F	A		No	15.4.6, 15.13.3, 15.19.6
Isovaleraldehyde	2058	C	S/P	3	2G	Cont.	Inert	T3	IIB	No	No	R	F-T	A		No	15.4.6, 15.16.1
Maleic anhydride	2215	D	S	3	2G	Cont.	No				Yes	R	Nc	A(g) C		No	
Mercaptobenzotriazol, sodium salt solution		(B)	S/P	3	2G	Open	No		NF			O	No	No	N1	No	16.2.9
Mesityl oxide	1229	D	S	3	2G	Cont.	No	T2	IIB	No	No	R	F-T	A		No	15.19.6

	D	C	d	e	f	g	h	i	j	k	l	m	n	o	
Methacrylic acid	2531	D	S	3	2G	Cont.	No		Yes	R	T	A	Y1	No	15.13, 16.6.1
Methacrylonitrile		(B)	S/P	2	2G	Cont.	No		No	C	F-T	A	N4 -Z	E	15.12, 15.13, 15.17, 15.19
Methyl acrylate	1919	C	S/P	2	2G	Cont.	No	T1	IIB	R	F-T	B		E	15.13, 16.6.1, 16.6.2
Methylamine solutions (42% or less)	1235	C	S/P	2	2G	Cont.	No		No	C	F-T	A,C, D	N1	E	15.12, 15.17, 15.19
Methylamyl acetate	1233	(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Methylamyl alcohol	2053	(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Methyl amyl ketone	1110	(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
2-Methyl-6-ethylaniline		C	S/P	3	2G	Open	No		Yes	O	No	B,C, D		No	
2-Methyl-5-ethylpyridine	2300	(B)	S/P	3	2G	Open	No		IIA	Yes	O	D	N4	No	
Methyl formate	1243	D	S	2	2G	Cont.	No		No	R	F-T	A		E	15.12, 15.14, 15.19
2-Methyl-2-hydroxy-3-butyne		III	S	3	2G	Cont.	No		No	R	F-T	A,C, D	N6	No	15.19.6
Methyl methacrylate	1247	D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	B	No	15.13, 16.6.1, 16.6.2
2-Methyl-1-pentene	2288	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
2-Methylpyridine	2313	B	S/P	2	2G	Cont.	No		No	C	F	A,C	N4	No	15.12.3, 15.19.6

a	D	C	d	e	f	g	h	i	i'	i''	i'''	J	k	l	m	n	o
4-Methylpyridine	2313	B	S/P	2	2G	Cont.	No			No		C	F-T	A,C, D	N4	No	15.12.3, 15.19, 16.2.9
N-Methyl-2-pyrrolidone		B	P	3	2G	Open	No			Yes		O	No	A		No	
Methyl salicylate		(B)	P	3	2G	Open	No			Yes		O	No	A		No	
alpha-Methylstyrene	2303	A	S/P	2	2G	Cont.	No	T1	IIB	No		R	F-T	D		No	15.13, 15.19.6, 16.6.1, 16.6.2
Morpholine	2054	D	S	3	2G	Cont.	No	T2	IIA	No		R	F	A	N2, Z	No	
Motor fuel anti-knock compounds	1649	A	S/P	2	IG	Cont.	No	T4	IIA	No		C	F-T	B,C		E	15.6, 15.12, 15.18, 15.19
Naphthalene (molten)	2304	A	S/P	2	2G	Cont.	No	T1	IIA	Yes		R	No	A,D		No	15.19.6
Neodecanoic acid		(B)	P	3	2G	Open	No			Yes		O	No	A		No	
Nitrating acid (mixture of sulphuric and nitric acids)	1796	(C)	S/P	2	2G	Cont.	No		NF			C	T	No		E	15.11, 15.16.2, 15.17, 15.19
Nitric acid (70% and over)	2031, 2032 (h)	C	S/P	2	2G	Cont.	No		NF			C	T	No		E	15.11, 15.19
Nitric acid (less than 70%)	2031	C	S/P	2	2G	Cont.	No		NF			R	T	No		E	15.11, 15.19
Nitrobenzene	1662	B	S/P	2	2G	Cont.	No	T1	IIA	Yes		C	T	D		No	15.12, 15.17 to 15.19, 16.2.9
o-Nitrophenol (molten)	1663	B	S/P	2	2G	Cont.	No			Yes		C	T	A,C, D		No	15.12, 15.19.6, 16.2.6, 16.2.9, 16A.2.2

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
1- or 2-Nitropropane	2608	D	S	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	
Nitropropane (60%)/ nitroethane (40%) mixture		D	S	3	2G	Cont.	No			No	R	F-T	A, C u/	N4	No	
(o- and p-) Nitrotoluenes	1664	C	S/P	2	2G	Cont.	No		IIB	Yes	C	T	B		No	15.12, 15.17, 15.19, 16.2.9
Nonene		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Nonyl alcohol		C	P	3	2G	Open	No			Yes	O	No	A		No	
Nonylphenol		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Octanol (all isomers)		C	P	3	2G	Open	No			Yes	O	No	A		No	
Octene (all isomers)		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Olefins, straight chain mixtures		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.6, 16.2.9
alpha-Olefins, (C ₆ -C ₁₈) mixtures		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.6, 16.2.9
Oleum	1831	C	S/P	2	2G	Cont.	No		NF		C	T	No		E	15.11.2 to 15.11.8, 15.12.1, 15.16.2, 15.17, 15.19, 16.2.7
Paraaldehyde	1264	C	S/P	3	2G	Cont.	No	T3	IIB	No	R	F	A		No	16.2.9
Pentachloroethane	1669	B	S/P	2	2G	Cont.	No		NF		R	T	No		No	15.12, 15.17, 15.19.6
1,3-Pentadiene		C	S/P	3	2G	Cont.	No			No	R	F-T	B		No	15.13, 16.6

a	b	c	d	e	f	g	h	i	ii	iii	j	k	l	m	n	o
n-Pentane	1265	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Pentene (all isomers)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6, 16.2.9
Perchloroethylene	1897	B	S/P	3	2G	Cont.	No		NF		R	T	No		No	15.12.1, 15.12.2
Phenol	2312	B	S/P	2	2G	Cont.	No	TI	IIA	Yes	C	T	A		No	15.12, 15.19, 16.2.6, 16.2.9, 16A.2.2
1-Phenyl-1-xylyl ethane		C	P	3	2G	Open	No			Yes	O	No	B		No	
Phosphoric acid	1805	D	S	3	2G	Open	No		NF		O	No	No		No	15.11.1 to 15.11.4, 15.11.6 to 15.11.8
Phosphorus, yellow or white	1381 2447	A	S/P	1	1G	Cont.	Pad + (vent or inert)			No (k)	C	No	C		E	15.7, 15.19
Phthalic anhydride	2214	C	S/P	3	2G	Cont.	No	TI	IIA	Yes	R	No	D		No	16.2.9
Pinene	2368	A	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Polyethylene polyamines	2734 (i) 2735	C	S/P	3	2G	Open	No			Yes	O	No	A	N2	No	16.2.9
Polymethylene polyphenyl isocyanate	2206 (i) 2207	D	S	2	2G	Cont.	Dry			Yes (b)	C	T (b)	C(c), D	N5	No	15.12, 15.16.2, 15.19.6
Potassium hydroxide solution	1814	C	S/P	3	2G	Open	No		NF		O	No	No	N8	No	16.2.9
n-Propanoamine		C	S/P	3	2G	Open	No			Yes	O	No	A, D	N2	No	16.2.9

a	p	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
beta-Propiolactone		D	S	Z	ZG	Cont.	No			IIA	Yes	R	T	A		No	
Propionaldehyde	1275	D	S	J	2G	Cont.	No				No	R	F-T	A		E	15.16.1, 15.17
Propionic acid	1848	D	S	J	2G	Cont.	No	T1	IIA	No		R	F	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Propionic anhydride	2496	C	S/P	J	2G	Cont.	No	T2	IIA	Yes		R	T	A	Y1	No	
Propionitrile	2404	C	S/P	Z	1G	Cont.	No	T1	IIB	No		C	F-T	A,D		E	15.12, 15.17 to 15.19
n-Propylamine	1277	C	S/P	Z	2G	Cont.	Inert	T2	IIA	No		C	F-T	C,D	N2	E	15.12, 15.19
Propylene dimer		(C)	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Propylene oxide	1280	D	S	Z	2G	Cont.	Inert	T2	IIB	No		C	F-T	A,C	Z	No	15.8, 15.12.1, 15.14, 15.15, 15.19
Propylene trimer	2057	B	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Pyridine	1282	B	S/P	3	2G	Cont.	No	T1	IIA	No		R	F	A	N4	No	
Rosin		A	P	3	2G	Open	No				Yes	O	No	A		No	
Rosin soap (disproportionated) solution		B	P	3	2G	Open	No				Yes	O	No	A		No	
Sodium borohydride (15% or less)/Sodium hydroxide solution		C	S/P	3	2G	Open	No		NF			O	No	No	N1	No	16.2.7
Sodium chlorate solution (50% or less)		III	S	3	2G	Open	No		NF			O	No	No		No	15.9, 15.16.1, 15.19.6

a	b	c	d	e	f	g	h	i	i	j	k	l	m	n	o
Sodium dichromate solution (70% or less)		B	S/P	2	2G	Open	No		NF	C	No	No	N2	No	15.12.3, 15.19
Sodium hydrosulphide solution (45% or less)	2949	B	S/P	3	2G	Cont.	Vent or pad (gas)		NF	R	T	No		No	15.16.1, 16.2.9
Sodium hydrosulphide/Ammonium sulphide solution		B	S/P	2	2G	Cont.	No	-	No	C	F-T	A, C	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6
Sodium hydroxide solution	1824	D	S	3	2G	Open	No		NF	O	No	No	N8	No	
Sodium hypochlorite solution (15% or less)	1791	B	S/P	3	2G	Cont.	No		NF	R	No	No	N5	No	15.16.1
Styrene monomer	2055	B	S/P	3	2G	Cont.	No	T1	IIA	No	O	F	B	No	15.13, 16.6.1, 16.6.2
Sulphur (molten)	2448	III	S	3	1G	Open	Vent or pad (gas)	T3	Yes (1)	O	F-T	No		No	15.10
Sulphuric acid	1830	C	S/P	3	2G	Open	No		NF	O	No	No		No	15.11, 15.16.2, 16.2.8, 16.2.9
Sulphuric acid, spent	1832	C	S/P	3	2G	Open	No		NF	O	No	No		No	15.11, 15.16.2, 16.2.8, 16.2.9
Tall oil, crude and distilled		A	P	3	2G	Open	No		Yes	O	No	A		No	
Tall oil fatty acid (resin acids less than 20%)		(C)	P	3	2G	Open	No		Yes	O	No	A		No	

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
Tail oil soap (disproportionated) solution		B	P	3	2G	Open	No				Yes	O	No	A		No	16.2.6, 16.2.9
Tetrachloroethane	1702	B	S/P	3	2G	Cont.	No		NF			R	T	No		No	15.12, 15.17
Tetraethylenepentamine	2320	D	S	3	2G	Open	No				Yes	O	No	A	N1	No	
Tetrahydrofuran	2056	D	S	3	2G	Cont.	No	T3	IIB		No	R	F-T	A ₃ D		No	
Tetrahydronaphthalene		C	P	3	2G	Open	No				Yes	O	No	A		No	
Toluene	1294	C	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
Toluenediamine	1709	C	S/P	2	2G	Cont.	No				Yes	C	T	B ₃ C, D	N1	E	15.12, 15.17, 15.19, 16.2.9
Toluene diisocyanate	2078	C	S/P	2	2G	Cont.	Dry	T1	IIA		Yes	C	F-T	C(C), D	N4	E	15.12, 15.16.2, 15.17, 15.19, 16.2.9
o-Toluidine	1708	C	S/P	2	2G	Cont.	No				Yes	C	T	A ₃ C		No	15.12, 15.17, 15.19
Tributyl phosphate		B	P	3	2G	Open	No				Yes	O	No	A		No	
1,2,4-Trichlorobenzene	2421	B	S/P	2	2G	Cont.	No				Yes	R	T	C		No	15.19.6, 16.2.9, 16A.2.2
1,1,1-Trichloroethane	2831	B	P	3	2G	Open	No				Yes	O	No	A		No	
1,1,2-Trichloroethane		B	S/P	3	2G	Cont.	No		NF			R	T	No		No	15.12.1
Trichloroethylene	1710	B	S/P	3	2G	Cont.	No	T2	IIA		Yes	R	T	No		No	15.12, 15.16.1, 15.17
1,2,3-Trichloropropane		B	S/P	2	2G	Cont.	No				Yes	C	T	B ₃ C, D		No	15.12, 15.17, 15.19

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
1,1,2-Trichloro-1,2,2-Trifluoroethane		C	P	3	2G	Open	No		NF		O	No	No		No	
Tricresyl phosphate (containing less than 1% ortho-isomer)		A	P	2	2G	Open	No				O	No	A		No	15.19.6
Tricresyl phosphate (containing 1% or more ortho-isomer)	2574 (j)	A	S/P	1	2G	Cont.	No	T2	I1A	Yes	C	No	B		No	15.12.3, 15.19
Triethanolamine		D	S	3	2G	Open	No		I1A	Yes	O	No	A	N1	No	
Triethylamine	1296	C	S/P	2	2G	Cont.	No	T2	I1A	No	R	F-T	B	N2	E	15.12
Triethylbenzene		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
Triethylenetetramine	2259	D	S	3	2G	Open	No	T2	I1A	Yes	O	No	A	N1	No	
Triethyl phosphite	2323		S	3	2G	Cont.	No			No	R	F-T	A,D		No	15.12.1
Trimethylacetic acid		D	S	3	2G	Cont.	No			Yes	R	No	A,C	Y1	No	15.11.2 to 15.11.8
1,2,4-Trimethylbenzene		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Trimethylhexamethylene diamine (2,2,4- and 2,4,4-isomers)	2327	D	S	3	2G	Open	No			Yes	O	No	A,C	N1	No	15.19.6
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	2328	B	S/P	2	2G	Cont.	Dry			Yes	C	T	A, C(c)		No	15.12, 15.16.2, 15.17, 15.19.2
2,2,4-Trimethyl-1,3-Pentanediol-1-isobutyrate		C	P	3	2G	Open	No			Yes	O	No	A		No	

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
Trimethyl phosphite	2329	S	S	3	2G	Cont.	No				No	R	F-T	A, D	No	15.12.1, 15.16.2, 15.19.6
Trixylyl phosphate		A	P	1	2G	Open	No				Yes	O	No	A	No	15.19
Turpentine	1299	B	P	3	2G	Cont.	No				No	R	F	A	No	15.19.6
1-Undecene		B	P	3	2G	Open	No				Yes	O	No	A	No	
Undecyl alcohol		B	P	3	2G	Open	No				Yes	O	No	A	No	16.2.9, 16A.2.2(r)
Dres, Ammonium solution (containing aqua ammonia)		C	S/P	3	2G	Cont.	No		NF			R	I	A	N4	No
n-Valeraldehyde	2058	D	S	3	2G	Cont.	Inert	T3	IIB	No		R	F-T	A	No	15.4.6, 15.16.1
Vinyl acetate	1301	C	S/P	3	2G	Cont.	No	T2	IIA	No		O	F	A	No	15.13, 16.6.1, 16.6.2
Vinyl ethyl ether	1302	C	S/P	2	1G	Cont.	Inert	T3	IIB	No		C	F-T	A	N6	E
Vinylidene chloride	1303	B	S/P	2	2G	Cont.	Inert	T2	IIA	No		R	F-T	B	N5	E
Vinyl neodecanoate		C	S/P	3	2G	Open	No				Yes	O	No	B	No	15.13, 15.16.1, 16.6.1, 16.6.2
Vinyl toluene	2618	A	S/P	3	2G	Cont.	No		IIA	No		R	F	D	N1	No
White spirit, low (15-20%) aromatic	1300	(B)	P	2	2G	Cont.	No				No	R	F	A	No	15.19.6
Xylenes	1307	C	P	3	2G	Cont.	No				No	R	F	A	No	15.19.6, 16.2.9
Xylenol	2261	B	S/P	3	2G	Open	No		IIA	Yes		O	No	B	No	16.2.9, 16A.2.2

- a Applies to ammonia aqueous, 28% or less but not below 10%.
- b If the product to be carried contains flammable solvents such that the flashpoint does not exceed 60°C c.c., then special electrical systems and a flammable vapour detector should be provided.
- c Although water is suitable for extinguishing open air fires involving chemicals to which this footnote applies, water should not be allowed to contaminate closed tanks containing these chemicals because of the risk of hazardous gas generation.
- d UN number 1198 only applies if flashpoint is below 60°C c.c.
- e Applies to formaldehyde solutions 45% or less, but not below 5%.
- f Applies to hydrochloric acid not below 10%.
- g Dry chemical cannot be used because of the possibility of an explosion.
- h UN number 2032 assigned to red fuming nitric acid.
- i UN number depends on boiling point of substance.
- j UN number assigned to this substance containing more than 3% of ortho-isomer.
- k Phosphorus, yellow or white, is carried above its autoignition temperature and therefore flashpoint is not appropriate. Electrical equipment requirements may be similar to those for substances with a flashpoint above 60°C c.c.
- l Sulphur (molten) has a flashpoint above 60°C c.c., however, electrical equipment should be certified safe for gases evolved.

- m UN number 2672 refers to 10-35%.
- n UN number 2511 applies to 2-Chloropropionic acid only.
- o Dinitrotoluene should not be carried in deck tanks.
- p Temperature sensors should be used to monitor the cargo pump temperature to detect overheating due to pump failure.
- q Requirements are based on those isomers having a flashpoint of 60°C or less, some isomers have a flashpoint greater than 60°C, and therefore the requirements based on flammability would not apply to such isomers.
- r Reference to 16A.2.2 applies to 1-undecyl alcohol only.
- s Applies to n-Decyl alcohol only.
- t UN number 1114 applies to Benzene.
- u Dry chemicals should not be used as a fire-fighting medium.
- v Confined spaces should be tested for both formic acid vapours and carbon monoxide gas, a decomposition product.
- w Applies to p-xylene only.

CHAPTER 18 - LIST OF CHEMICALS TO WHICH
THE CODE DOES NOT APPLY*

The existing text of chapter 18 is replaced by the following:

- 1 The following are products which are not considered to come within the scope of the Code. This list may be used as a guide in considering bulk carriage of products whose hazards have not yet been evaluated.
- 2 Although the products listed in this chapter fall outside the scope of the Code, the attention of Administrations is drawn to the fact that some safety precautions may be needed for their safe transportation. Accordingly Administrations should prescribe appropriate safety requirements.

Chapter 18	UN number
Acetone	1090
Alcohols (C ₁₃ and above)	-
Alkyl (C ₉ -C ₁₇) benzenes	-
Aluminium sulphate solution	
Aminoethyl diethanolamine/ Aminoethyl ethanolamine, water solution	
n-Amyl alcohol	1105
sec-Amyl alcohol	1105
tert-Amyl alcohol	1105
Amyl alcohol, primary	1105
Butene oligomer	
sec-Butyl acetate	1123
n-Butyl alcohol	1120
sec-Butyl alcohol	1120
tert-Butyl alcohol	1120

* The product names are not always identical with the names given in the various editions of the Bulk Chemical Code (resolution A.212(VII)).

Chapter 18	UN number
Butylene glycol	-
gamma-Butyrolactone	-
Butyl stearate	-
Calcium alkyl salicylate	-
Calcium bromide solution	-
Calcium chloride solution	-
epsilon-Caprolactam (molten or aqueous solutions)	-
Choline chloride solutions	-
Coconut oil fatty acid methyl ester	-
Dextrose solution	-
Diacetone alcohol	1148
Dialkyl (C7-C13) phthalates	-
Dicyclopentadiene	2048
Diethylene glycol	-
Diethylene glycol butyl ether	-
Diethylene glycol butyl ether acetate	-
Diethylene glycol dibutyl ether	-
Diethylene glycol diethyl ether	-
Diethylene glycol ethyl ether	-
Diethylene glycol ethyl ether acetate	-
Diethylene glycol methyl ether acetate	-
Diethylenetriamine pentaacetic acid pentasodium salt solution	-
Di-(2-ethyl hexyl) adipate	-
Diheptyl phthalate	-
Dihexyl phthalate	-

Chapter 18	UN number
Diisobutyl ketone	1157
Diisodecyl phthalate	-
Diisononyl adipate	-
Diisopropyl naphthalene	-
Dinonyl phthalate	-
Diisooctyl phthalate	-
2,2-Dimethyloctanoic acid	-
Dioctyl phthalate	-
Dipropylene glycol	-
Dipropylene glycol methyl ether	-
Diundecyl phthalate	-
Dodecane	-
2-Ethoxyethanol	1171
Ethyl acetate	1173
Ethyl acetoacetate	-
Ethyl alcohol	1170
Ethylcyclohexane	-
Ethylene carbonate	-
Ethylenediamine tetraacetic acid tetrasodium salt solution	-
Ethylene glycol	-
Ethylene glycol butyl ether	2369
Ethylene glycol butyl ether acetate	-
Ethylene glycol methyl butyl ether	-
Ethylene glycol methyl ether	1188
Ethylene glycol methyl ether acetate	1189
Ethylene glycol phenyl ether	-

Chapter 18	UN number
Ethylene glycol tert-butyl ether	-
Ethylene glycol phenyl ether/ Diethylene glycol phenyl ether mixture	-
2-Ethylhexanoic acid	-
Formamide	-
Ethylene/vinyl acetate copolymer (emulsion)	-
Glycerin	-
Glycine, sodium salt, solution	-
Ground nut oil	-
n-Heptane	1206
Hexamethylene diamine adipate, (50% in water)	-
n-Hexane	1208
1-Hexanol	2282
Hexylene glycol	-
N-(Hydroxyethyl) ethylenediamine triacetic acid, trisodium salt, solution	-
Isoamyl alcohol	1105
Isobutyl alcohol	1212
Isobutyl formate	2393
Isododecane	-
Isopentane	1265
Isophorone	-
Isopropyl acetate	1220
Isopropyl alcohol	1219
Lactic acid	-

Chapter 18	UN number
Latex:	
Styrene butadiene rubber latex	-
Carboxylated styrene-butadiene copolymer	-
Lignin sulphonic acid, sodium salt solution	-
Magnesium chloride solution	-
Magnesium hydroxide slurry	-
3-Methoxy-1-butanol	-
3-Methoxyl butyl acetate	-
Methyl acetate	1231
Methyl alcohol	1230
Methyl tert-butyl ether	2398
Methyl ethyl ketone	1193
Methyl isobutyl ketone	1245
3-Methyl-3-methoxy butanol	-
3-Methyl-3-methoxy butyl acetate	-
Molasses	-
Nonane	1920
Oleic acid	-
Octane	1262
Olefins (C ₁₃ and above, all isomers)	-
alpha-Olefins (C ₁₆ -C ₁₈)	-
n-Paraffins (C ₁₀ -C ₂₀)	-
Paraffin wax	-
Petrolatum	-
Petroleum naphtha	1255
Polyaluminium chloride solution	-
Polybutene	-
Polyethylene glycol	-

Chapter 18	UN number
Polyethylene glycol dimethyl ether	-
Polypropylene glycol	-
Polypropylene glycol methyl ether	-
Polysiloxane	-
n-Propyl acetate	1276
n-Propyl alcohol	1274
Propylene glycol	-
Propylene glycol ethyl ether	-
Propylene glycol methyl ether	-
Propylene tetramer	2850
Sodium aluminosilicate slurry	-
Sulpholane	-
Tridecanol	-
Triethylene glycol	-
Triethylene glycol butyl ether	-
Triisopropanolamine	-
Trimethylol propane polyethoxylate	-
Tripropylene glycol	-
Tripropylene glycol methyl ether	-
Urea solution	-
Urea, ammonium nitrate solution	-
Urea, ammonium phosphate solution	-
Urea resin solution	-
Vegetable oil (those not otherwise listed)	-
Vegetable protein solution (hydrolyzed)	-
Wine	-

APPENDIX

MODEL FORM OF INTERNATIONAL CERTIFICATE OF FITNESS
FOR THE CARRIAGE OF DANGEROUS CHEMICALS IN BULK

Existing form of the Certificate is replaced by the following:

"INTERNATIONAL CERTIFICATE OF FITNESS FOR THE CARRIAGE
OF DANGEROUS CHEMICALS IN BULK

(Official seal)

Issued under the provisions of the
INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT
OF SHIPS CARRYING DANGEROUS CHEMICALS IN BULK
(resolutions MSC.4(48) and MEPC 19(22))1/

under the authority of the Government of

.....
(full official designation of country)

by.....
(full official designation of the competent
person or organization recognized by the
Administration)

Name of ship	Distinctive number or letters	Port of registry	Gross tonnage	Ship type (Code paragraph 2.1.2) <u>2/</u>

Date on which keel was laid or on which the ship was at a similar stage of construction or (in the case of a converted ship) date on which conversion to chemical tanker was commenced:

.....

The Certificate should be drawn up in the official language of the issuing country. If the language used is neither English nor French, the text should include a translation into one of these languages.

The ship also complies fully with the following amendments to the Code;

.....

The ship is exempted from compliance with the following provisions of the Code:

.....

THIS IS TO CERTIFY:

- 1 .1 That the ship has been surveyed in accordance with the provisions of section 1.5 of the Code;
- .2 that the survey showed that the construction and equipment of the ship complied with the relevant provisions of the Code;
- *.3 that the ship is an incinerator ship complying also with the supplementary and modified requirements of chapter 19;

- 2 That the ship has been provided with a manual in accordance with the standards for procedures and arrangements as called for by Regulation 5, 5A and 8 of Annex II of MARPOL 73/78, and that the arrangements and equipment of the ship prescribed in the manual are in all respects satisfactory and comply with the applicable requirements of the said Standards;

- 3 That the ship is suitable for the carriage in bulk of the following products, provided that all relevant operational provisions of the Code are observed:

Products ^{3/4/}	Conditions of carriage ^{5/} (tank numbers etc.)
--------------------------	---

*Continued on attachment 1, additional signed and dated sheets.
Tank numbers referred to in this list are identified on attachment 2, signed and dated tank plan.

* Delete as appropriate.

4 That, in accordance with *1.4 and *2.8.2, the provisions of the Code are modified in respect of the ship in the following manner:

5 That the ship must be loaded:

*.1 in accordance with the loading conditions provided in the approved loading manual, stamped and dated and signed by a responsible officer of the Administration, or of an organization recognized by the Administration;

*.2 in accordance with the loading limitations appended to this Certificate.

Where it is required to load the ship other than in accordance with the above instruction, then the necessary calculations to justify the proposed loading conditions should be communicated to the certifying Administration who may authorize in writing the adoption of the proposed loading condition,**

This certificate is valid until subject to surveys in accordance with 1.5 of the Code

Issued at 19.. (place of issue of certificate)

The undersigned declares that he is duly authorized by the said Government to issue this Certificate.

.....
 (signature of official issuing the certificate and/or seal of issuing authority)

Notes on completion of Certificate:

1/ The Certificate can be issued only to ships entitled to fly the flags of States which are Parties to both SOLAS 74 and MARPOL 73/78.

2/ Ship type: Any entry under this column must relate to all relevant recommendations, e.g. an entry "type 2" should mean type 2 in all respects prescribed by the Code.

3/ Products: products listed in chapter 17 of the Code, or which have been evaluated by the Administration in accordance

* Delete as appropriate.

** Instead of being incorporated in the Certificate, this text may be appended to the Certificate if duly signed and stamped.

with 1.1.3 of the Code, should be listed. In respect of the latter "new" products, any special requirements provisionally prescribed should be noted. It should be noted that for incinerator ships "liquid chemical waste" is to be entered in lieu of the individual product names.

- 4/ Products: The list of products the ship is suitable to carry should include the noxious liquid substances of category D which are not covered by the Code and should be identified as "chapter 18 category D".
- 5/ Conditions of carriage: The limitations on the carriage of category B or category C substances under 16A.2 of the Code should also be indicated.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that at a survey required by 1.5 of the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk, the ship was found to comply with the relevant provisions of the Code.

Annual survey: Signed:
(signature of duly authorized official)

Place:

Date:

(seal or stamp of the Authority, as appropriate)

Annual*/Intermediate* survey: Signed:
(signature of duly authorized official)

Place:

Date:

(seal or stamp of the Authority, as appropriate)

Annual*/Intermediate* survey: Signed:
(signature of duly authorized official)

Place:

Date:

(seal or stamp of the Authority, as appropriate)

Annual survey: Signed:
(signature of duly authorized official)

Place:

Date:

(seal or stamp of the Authority, as appropriate)

* Delete as appropriate

ATTACHMENT 1 TO THE INTERNATIONAL CERTIFICATE OF FITNESS
FOR THE CARRIAGE OF DANGEROUS CHEMICALS IN BULK

Continued list of products to those specified in
section 3, and their conditions of carriage

Products	Conditions of carriage (tank numbers, etc.)

Date
(as for Certificate)

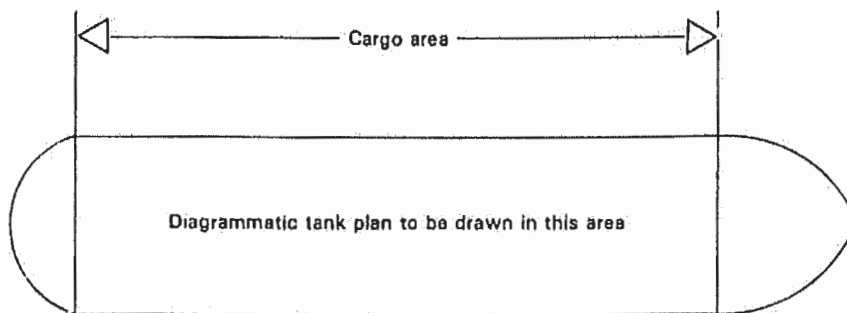
.....
(Signature of official issuing the
Certificate and/or seal of
issuing authority)

**ATTACHMENT 2 TO THE INTERNATIONAL CERTIFICATE OF FITNESS
FOR THE CARRIAGE OF DANGEROUS CHEMICALS IN BULK**

TANK PLAN (specimen)

Name of ship:

Distinctive number or letters:



Date
(as for Certificate)

.....
(signature of official issuing the
Certificate and/or seal of issuing
authority)

第 98/2014 號行政長官公告

Aviso do Chefe do Executivo n.º 98/2014

中華人民共和國是國際海事組織的成員國及一九七四年十一月一日訂於倫敦的《國際海上人命安全公約》的締約國；

國際海事組織海上安全委員會於一九八九年四月十一日透過第MSC.14 (57) 號決議通過了《國際散裝運輸危險化學品船舶構造和設備規則》修正案，且該修正案自一九九九年十二月二十日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.14 (57) 號決議的中文及英文文本。

二零一四年十一月十八日發佈。

行政長官 崔世安

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional e um Estado Contratante da Convenção Internacional para a Salvaguarda da Vida Humana no Mar, concluída em Londres em 1 de Novembro de 1974;

Considerando igualmente que, em 11 de Abril de 1989, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.14 (57), adoptou emendas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Substâncias Químicas Perigosas a Granel, e que tais emendas entraram em vigor, em relação à Região Administrativa Especial de Macau, em 20 de Dezembro de 1999;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.14 (57) que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 18 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC14 (57) 號決議

1989 年 4 月 11 日通過

通過《國際散裝運輸危險化學品 船舶構造和設備規則》修正案

海上安全委員會，

憶及《國際海事組織公約》第 28(b)條關於本委員會職權的規定，

還憶及經修正的《1974 年國際海上人命安全公約》第 VIII(b)條和規則 VII/8.1 關於《國際散化規則》修正程序的規定，

注意到海上環境保護委員會第 MEPC.32(27)號決議為《73/78 防止船舶造成污染公約》通過了《國際散化規則》的修正案，

在其第五十七屆會議上，審議了秘書長根據該公約第 VIII(b)(i)條建議並散發的規則修正案，

1. 根據該公約 VIII(b)(IV)條的規定，通過該規則的修正案，該修正案的條文載入本決議的附件中；

2. 根據該公約第 VIII(b)(VI)(2)(bb)的規定，確定該修正案將在 1990 年 4 月 11 日被認為已被接受，除非在該日以前有三分之一以上的締約國政府或其商船隊合計總噸位不少於世界商船總隊 50%的締約國政府以書面表示反對該修正案；

3. 請各締約國政府注意，根據該公約第 VIII(b)(VII)(2)條的規定，該修正案按其根據上述第 2 段的接受情況，將於 1990 年 10 月 13 日生效；

4. 按照該公約第 VIII(b)(V)條的規定，要求秘書長將本決議和載於附件的修正案的核正無誤的副本轉交經修正的《1974 年國際海上人命安全公約》的所有締約國政府；

5. 還要求秘書長將本決議及其附件的副本轉交給不是本公約締約政府的本組織成員國。

附件

《國際散裝運輸危險化學品船舶構造和設備規則》

1989 年修正案（國際散化規則）

- 1 規則 1.1.2: 在第二行中，將“絕對”一詞插入“2.8”與“巴”之間。
- 2 規則 11.3.2: 將最後一句改為：“普通蛋白泡沫不得使用。”
- 3 規則 11.4 特殊要求: 現有條文改為：“被認為適合於某些貨品的滅火劑列在第 17 章一覽表的“1”欄內。”
- 4 規則 15.1 丙酮氰醇:
 - .1 在題後增加“和乳腓溶液（80%或以下）”一語。
 - .2 第一句改為：“丙酮氰醇和乳腓溶液（80%或以下）須”。
- 5 規則 15.10.1（僅指西班牙文本）:
 - .1（略—譯註）
- 6 新增規則 15.20 硝酸辛酯: 新增規則 15.20 硝酸辛酯如下：

“15.20 硝酸辛酯，所有異構體

15.20.1

該貨品的運輸溫度應保持在 100°C 以下，以防止自持放熱分解作用的發生。

15.20.2

該貨品不可裝於永久固定在船舶甲板上的獨立壓力容器中運輸，除非：

- .1 液貨艙充分地與火絕緣；以及
- .2 船上裝有液貨浸水裝置，使得貨品溫度可保持在 100°C 以下，並且當火的溫度為 650°C (1200°F) 時，液貨艙中的溫升不超過 1.5°C/小時。

7 規則 16.7：刪除“15.8.15”、“15.8.21”、“15.8.35”、“15.8.36”和“15.8.37”。

8 第 17 章—關於防火的註釋：

- .1 在“A：抗乙醇泡沫”的註釋後增加“或多用途泡沫”；
- .2 在“D：乾化學粉”之後增加如下腳註：

“使用乾化學粉系統時，可能需要一個用於邊緣冷卻的附加水冷系統。這通常是按經修正的《1974 年安全公約》第 II-2/4 條的要求用標準消防主系統提供足夠的數量來進行的。”

9 第 17 章—一覽表和腳註

以下內容取代最低要求一覽表和腳註：

貨物名稱	聯合國編號	污染類別	危害性	船型	艙型	液艙透氣	液艙環境控制	電氣設備類別	閃點	測量	蒸氣探測	火	構造材料	呼吸和眼睛保護	特殊要求 (見第 15 章)		
	a	b	c	d	e	f	g	h	i ¹	i ²	i ³	j	k	l	m	n	o
醋酸		D	S	3	2G	Cont.	No	T1	IIA	No	R	F	A	Y1,	Z	E	15.11.2 至 15.11.4, 15.11.6 至 15.11.8
醋酸酐	1715	D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1		E	15.11.2 至 15.11.4, 15.11.6 至 15.11.8
2-甲基-2-羟基丙脂	1541	A	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A	Y1		E	15.1,15.12,15.17 至 15.19,16.6
乙腈	1648	III	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A			No	15.12
丙稀酰胺溶液(50% 或以下)	2074	D	S	2	2G	Open	No		NF		C	No	No			No	15.12.3,15.13,15.16.1 ,15.19.6,16.6.1
丙稀酸	2218	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	Y1		No	15.13,16.6.1
丙稀腈	1093	B	S/P	2	2G	Cont.	No	T1	IIB	No	C	F-T	A	N3,		E	15.12,15.13,15.17,15.

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
己二腈	2205	D	S	3	2G	Cont.	No		IIB	Yes	R	T	A	Z	No	19
乙醇 (C12-C15) 多 (1-3)乙氧基化物		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
乙醇 (C12-C15) 多 (3-11)乙氧基化物		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
乙醇(C6-C17)(仲)多 (3-6)乙氧基化物		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
乙醇(C6--C17)(仲) 多(7-12)乙氧基化物		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6,16.2.9
甲苯中的烷基-丙 烯酸鹽-乙烯基- 吡啶共聚物		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
烷丙基磺酸	2584	C	S/P	3	2G	Open	No			Yes	O	No	A		No	16.2.7,16.2.8
烷丙基磺酸·納鹽溶 液	2586	C	P	3	2G	Open	No		NF		O	No	No		No	16.2.7 至 16.2.9
烯丙醇	1098	B	S/P	2	2G	Cont.	No	T2	IIB	No	C	F-T	A		E	15.12,15.17,15.19
烯丙基氯	1100	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A		E	15.12,15.17,15.19
氯化鋁(30%或以下)/		D	S	3	1G	Cont.	No		NF		R	T	No		E	15.11

a	b	c	d	e	f	g	h	i'	i''	j	k	l	m	n	o
鹽酸(20%或以下)溶液														(f)	
2-(2-氨基乙氧基)乙醇	3055	D	S	3	2G	Open	No		Yes	O	No	A,D	N2	No	15.19.6
氨基乙醇胺		(D)	S	3	2G	Open	No	T2	Yes	O	No	A	N1	No	
N-氨基哌嗪	2815	D	S	3	2G	Cont.	No		Yes	R	T	A	N2	No	15.19.6
2-氨基-2-甲基-1-丙醇		D	S	3	2G	Open	No		Yes	O	No	A	N1	No	
(90%或以上)															
氨水(28%或以下)	2672	C	S/P	3	2G	Cont.	No		NF	R	T	A,B,	N4	E(a)	
硝酸銨溶液(93%或以下)	(m)	D	S	2	1G	Open	No		NF	O	No		Y4	No	15.2,15.11.4,15.11.6, 15.18,15.19.6
硝化銨溶液(45%或以下)	2683	B	S/P	2	2G	Cont.	No		No	C	F-T	A	N1	E	15.12,15.14,15.16.1,1 5.17,17.15.19,16.6
硝酸銨(25%或以下)/硫化硫酸銨溶液(20%或以下)	(C)	(C)	P	3	2G	Open	No		NF	O	No	No		No	
硫化硫酸銨溶液	(C)	(C)	P	3	2G	Open			NF	O	No	No		No	16.2.9

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
丁苯(所有異構體)	2709	(A)	P	2	2G	Cont.	No	T2	IIB	No	R	F	A		No	15.19.6
丁苻鄰苯二甲酸酯		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
丁酸丁酯		(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
異丁烯酸丁基/癸基/ 十六烷基/二十烷基 混合物		D	S	3	2G	Cont.	No			Yes	R	No	A,D		No	15.13,16.6.1,16.6.2
1,2-環氧丁烷	3022	C	S/P	3	2G	Cont.	Inert	T2	IIB	No	R	F	A,C	Z	No	15.8 至 7.12.,13.,16 至 19.,21.,25.,27.,29, 15.15,15.19.6
正丁基醚	1149	C	S/P	3	2G	Cont.	Inert	T4	IIB	No	R	F-T	A		No	15.4.6,15.12
甲基丙烯酸丁酯		D	S	3	2G	Cont.	No		IIA	No	R	F-T	A,D		No	15.13,16.6.1,16.6.2
正丁醛	1129	B	S/P	3	2G	Cont.	No	T3	IIA	No	O	F-T	A		No	15.16.1,15.19.6
丁酸	2820	D	S	3	2G	Cont.	No			Yes	R	No	A	YI	No	15.11.2 至 15.11.4, 15.11.6 至 15.11.8
烷基水楊酸鈣		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7,16.2.8
次氯酸鈣溶液 (15%或以下)		C	S/P	3	2G	Cont.	No		NF		R	No	No	N5	No	15.16.1
次氯酸鈣溶液 (15%或以上)		B	S/P	3	2G	Cont.	No		NF		R	No	No	N5	No	15.16.1
礦物油中的環烷酸		A	P	3	2G	Cont.	No			Yes	O	No	A		No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	j	k	l	m	n	o
鈣															
樟腦油	1130	B	S/P	2	2G	Cont.	No		IIA	No	O	F	A,B	No	15.19.6
酚油		A	S/P	2	2G	Cont.	No			Yes	C	F-T	A	No	15.12,15.19
二硫化碳	1131	B	S/P	2	1G	Cont.	Pad	T6	IIC	No	C	F-T	C	E	15.3,15.12,15.15,15.19
							+								
							Inert								
四氯化碳	1846	B	S/P	3	2G	Cont.	No		NF		C	T	No	Z	15.12,15.17,15.19.6
檳如堅果殼油(未處理)		D	S	3	2G	Cont.	No			Yes	R	T	A,B	No	
異丁烯酸十六烷基/二十烷基混合物		III	S	3	2G	Open	No			Yes	O	No	A,D	No	15.13,16.6.1,16.6.2
氯化石蠟(C10-C13)		A	P	1	2G	Open	No			Yes	O	No	A	No	15.19
氯乙酸(80%或以下)	1750	C	S/P	2	2G	Cont.	No		NF		C	No	No	Y5	15.11.2,15.11.4,15.11.6 至 15.11.8,15.12.3
氯苯	1134	B	S/P	2	2G	Cont.	No	TI	IIA	No	R	F-T	A,B	No	15.19.6
氯仿	1888	B	S/P	3	2G	Cont.	No		NF		R	T	No	Z	15.12,15.19
氯乙醇(粗)		(D)	S	2	2G	Cont.	No		IIA	No	C	F-T	A	No	15.12,15.19
正氯基苯	1578	B	S/P	2	2G	Cont.	No			Yes	C	T	A,B,	No	15.12,15.17,15.18,15.19,16.2.6,16.2.9,16A.
													D		2.2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
2-或3-氯丙酸	2511	(C)	S/P	3	2G	Open	No		Yes	O	No	A	Y1	No	15.11.2 至 15.11.4,15.11.6 至 15.11.8,16.2.7 至 16.2.9	
(n)																
氯磺酸	1754	C	S/P	1	2G	Cont.	No	NF		C	T	No	E	15.11.2 至 15.11.8,15.12,15.16.2 ,15.19		
偏氯甲苯	2238	B	S/P	3	2G	Cont.	No		No	R	F-T	A,B	No	15.19.6		
正氯甲苯	2238	A	S/P	3	2G	Cont.	No		No	R	F-T	A,B	No	15.19.6		
對氯甲苯	2238	B	S/P	2	2G	Cont.	No		No	R	F-T	A,B	No	15.19.6,16.2.9		
氯甲苯(混合異構體)	2238	A	S/P	2	2G	Cont.	No		No	R	F-T	A,B	No	15.19.6		
煤焦油		A	S/P	2*	2G	Cont.	No	T2	IIA	Yes	R	No	No	15.19.6		
煤焦油石腦油溶劑		B	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	No	15.19.6		
煤焦油瀝青(溶融)		D	S	3	1G	Cont.	No	T2	IIA	Yes	R	No	No	15.19.6		
椰油脂肪酸		C	P	3	2G	Open	No			Yes	O	No	A	No	16.2.7 至 16.2.9	

* 對於本修正案生效之日前建造並專門從事於船旗國境內的港口或碼頭之間的航行的船舶，其船型要求在修正案生效後十年適用。對於本修正案生效之日前建造並從事於來自、駛往船旗國以外的國家的港口碼頭或在其之間進行航行的船舶，如其滿足下列要求，則其船型要求在修正案生效後五年適用：

- 1 該船在本修正案生效前至少從事過五年的煤焦油定期營運；
- 2 該船只從事主管機關規定的限制範圍內的航行；
- 3 適裝證書的簽署，只限於該船從事於此種限制性航行，並註明寬限期到期屆滿日期；
- 4 五年的寬限期係有關政府一致同意的。

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
雜酚油(煤焦油)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	A,D		No	15.19.6
雜酚油(木材)		A	S/P	2	2G	Open	No	T2	IIA	Yes	O	No	A,D		No	15.19.6
甲酚(所有異構體)	2076	A	S/P	2	2G	Open	No	T1	IIA	Yes	O	No	A,B		No	15.19.6
甲苯基酸·鈉鹽溶液		A	S/P	2	2G	Open	No			Yes	O	No	No	N8	No	
丁烯醛	1143	B	S/P	2	2G	Cont.	No	T3	IIB	No	R	F-T	A		E	15.12,15.16.1,15.17.
																15.19.6
環庚烷	2241	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
環己烷	1145	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6,16.2.9
環己醇		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7,16.2.9
環己酮	1915	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	N5	No	
乙酸環己酯	2243	(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
環己胺	2357	C	S/P	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,C	N1	No	
1,3-環戊二烯二聚物 (熔融)		B	P	2	2G	Cont.	No			No	R	F	A		No	15.19.6,16.2.6,16.2.9, 16A.2.2
環戊烷	1146	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
環戊烯	2246	(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
對傘花烴	2046	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
癸酸		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7 至 16.2.9
癸烯		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
丙烯酸癸酯		A	S/P	2	2G	Open	No	T3	IIA	Yes	O	No	A,C,	N2	No	15.13,15.19.6,16.6.1,

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
癸醇(所有異構體)		B	P	3	2G	Open	No				Yes	O	No	A		No	16.6.2 15.19.6,16.2.9(s)
二丁胺		C	S/P	3	2G	Cont.	No	T2	IIA		No	R	F-T	A,C,	N4	No	
增潤劑		A	P	2	2G	Open	No				Yes	O	No	A		No	15.19.6
二氯苯(所有異構體)		B	S/P	2	2G	Cont.	No	T1	IIA		Yes	R	T	A,B,	N5	No	15.19.6,16.2.6(x), 16.2.9(y),16.2.2(z)
1,1-二氯乙烷	2362	B	S/P	3	2G	Cont.	No	T2	IIA		No	R	F-T	A		E	15.19.6
二氯二乙醚	1916	B	S/P	2	2G	Cont.	No	T2	IIA		No	R	F-T	A	N5	No	15.19.6
2,2-二氯異丙醚	2490	C	S/P	2	2G	Cont.	No				Yes	R	T	A,C,	N5	No	15.12,15.17,15.19
二氯甲烷	1593	D	S	3	2G	Cont.	No	T1	IIA		Yes	R	T	No		No	
2,4-二氯(苯)酚	2021	A	S/P	2	2G	Cont.	Dry				Yes	R	T	A	N1	No	15.19.6
2,4-二氯苯氧乙酸， 二乙醇胺鹽溶液		A	S/P	3	2G	Open	No		NF			O	No	No	N1	No	15.19.6
2,4-二氯苯氧乙酸， 二甲胺鹽溶液(70% 或以下)		A	S/P	3	2G	Open	No		NF			O	No	No	N1	No	15.19.6
2,4-二氯苯氧乙酸， 三異丙醇胺鹽溶液		A	S/P	3	2G	Open	No		NF			O	Mo	No	N1	No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
1,2-二氯丙烷	1279	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B	Z	No	15.12,15.19.6
1,3-二氯丙烷		B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B		No	15.12,15.19.6
1,3-二氯丙烯	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A,B		E	15.12,15.17 至 15.19
二氯丙烯/二氯丙烷 混合物		B	S/P	2	2G	Cont.	No			No	C	F-T	A,B,		E	15.12,15.17 至 15.19
		D	S	3	2G	Cont.	Dry			Yes	R	No	A	Y5	No	15.11.2,15.11.4,15.11.6 至 15.11.8
二乙醇胺		III	S	3	2G	Open	No	T1	IIA	Yes	O	No	A	N2	No	
二乙基胺	1154	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	N1	E	15.12
二乙氧基乙醇	2686	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C	N1	No	
二乙基苯	2049	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
二甘醇甲基醚		C	P	3	2G	Open	No			Yes	O	No	A		No	
二乙撑三胺	2079	D	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	N2	No	
二乙基醚	1155	III	S	2	1G	Cont.	Inert	T4	IIB	No	C	F-T	A	N7	E	15.4,15.14,15.15,15.19
二-(2-乙基己基)磷 酸	1902	C	S/P	3	2G	Open	No			Yes	O	No	A,D	N2	No	
鄰苯二甲酸二乙酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
鄰酸二乙酯	1594	(B)	S/P	2	2G	Cont.	No			Yes	C	T	A	N3	No	15.19.6
雙酚 A 二環氧甘油 醚		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6

a	b	c	d	e	f	g	h	i	i'	i''	j	k	l	m	n	o
雙酚 F 二環氧甘油 醚		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6
二正己基己二酸鹽		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
二異丁胺	2361	(C)	S/P	2	2G	Cont.	No			No	R	F-T	A,C, D	N1	No	15.12.3,15.19.6
二異丁烯	2050	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
鄰苯二甲酸二異丁 酯		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6
二異丙醇胺		C	S/P	3	2G	Open	No	T2	IIA	Yes	O	No	A	N2	No	16.2.7 至 16.2.9
二異丙胺	1158	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A	N2	E	15.12,15.19
二異丙苯(所有異構 體)		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
N, N-二甲基乙酰胺 (40%或以下)		D	S	3	2G	Cont.	No			Yes	R	T	B	N4	No	15.12.1,15.17
己二酸甲二基		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.9
二甲胺溶液(45%或 以下)	1160	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C, D	N1	E	15.12
二甲胺溶液(大於 45%但不超過 55%)	1160	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C, D	N1	E	15.12,15.17,15.19
二甲胺溶液(大於	1160	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C, D	N1	E	15.12,15.14,15.17

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
55%但不超過 65%)													D			
N,N-二甲基環己胺	2264	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C	N1	No	15.12,15.17,15.19,16
二甲基乙醇胺	2051	D	S	3	2G	Cont.	No	T3	IIA	No	R	F-T	A,D	N2	No	
二甲基甲酰胺	2265	D	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D		No	
二甲基戊二酸		C	P	3	2G	Open	No			Yes	O	No	A		No	
二甲基亞磷酸氫鹽		(C)	S	3	2G	Cont.	No			Yes	R	T	A,D		No	15.12.1
二甲基辛酸			P	3	2G	Open	No			Yes	O	No	A		No	16.2.8,16.2.9
鄰苯二甲酸二甲酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
丁二酸二甲酯		C	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9
二硝基甲苯(熔融)	1600	B	S/P	2	2G	Cont.	No			Yes	C	T	A		No	15.12,15.17,15.19,16.2.6,16.2.9,16A.2.2(p)
1,4-二惡烷	1165	D	S	2	2G	Cont.	No	T2	IIB	No	C	F-T	A		No	15.12,15.19
松油精	2052	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
聯苯		A	P	1	2G	Open	No			Yes	O	No	B		No	15.19
聯苯/聯苯醌混合物		A	P	1	2G	Open	No			Yes	O	No	B		No	15.19
聯苯醌		A	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
聯苯醌/聯苯苯基醌混合物		A	P	3	2G	Open	No			Yes	O	No	A		No	15.19.2
二苯甲烷聚氨基醌	2489	(B)	S/P	2	2G	Cont.	Dry			Yes	C	T	A,B,	N5	No	15.12,15.16.2,15.17
										(b)		(b)	C(c),			15.19.6,16.2.6,16.2.9

a	b	c	d	e	f	g	h	i	i'	i''	i'''	j	k	l	m	n	o
聯苯醇丙烷氯甲代 氧丙環樹脂		B	P	3	2G	Open	No				Yes	O	No	A		No	16A.2.2 16.2.6
二正丙胺	2383	C	S/P	3	2G	Cont.	No				No	R	F-T	A	N2	No	15.12.3,15.19.6
十二碳烯(所有異構 體)		(B)	P	3	2G	Open	No				Yes	O	No	A		No	15.19.6
十二烷基乙醇		B	P	3	2G	Open	No				Yes	O	No	A		No	15.19.6,16.2.6,16.2.9, 16A.2.2
十二烷聯苯醌二磺 酸鹽溶液		B	S/P	3	2G	Open	No		NF			O	No	No		No	15.19.6,16.2.6,16.2.9, 16A.2.2
十二烷異丁烯酸		III	S	3	2G	Open	No				Yes	O	No	A		No	15.13
十二烷基/十五烷基 混合物		III	S	3	2G	Open	No				Yes	O	No	A,D		No	15.13,16.6.1,16.6.2
碳酸十二烷基 鑽孔鹽水, 含鋅鹽		A	P	1	2G	Open	No				Yes	O	No	A		No	15.19
表氯醇	2023	C	S/P	2	2G	Cont.	No				Yes	O	No	No		No	15.19.6
乙醇胺	2491	D	S	3	2G	Open	No	T2	IIB		No	C	F-T	A		E	15.12,15.17,15.19
2-乙氧基醋酸乙酯	1172	C	P	3	2G	Cont.	No				No	R	F	A		No	15.19.6
丙烯酸乙酯	1917	A	S/P	2	2G	Cont.	No	T2	IIB		No	R	F-T	A		E	15.13,15.19.6,16.6.1, 16.6.2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
乙胺	1036	(C)	S/P	2	1G	Cont.	No	T2	IIA	No	C	F-T	C,D	N2	E	15.12,15.14,15.17,15.19
乙胺溶液(72%或以下)	2270	(C)	S/P	2	2G	Cont.	No			No	C	F-T	A,C	N1	E	15.12,15.14,15.17,15.19
乙基戊基甲酮	2271	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
乙苯	1175	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
N-乙丁胺		C	S/P	3	2G	Cont.	No			No	R	F-T	A	N1	No	15.12.3, 15.19.6
丁酸乙酯	1180	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
乙基環己烷		(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
N-乙基環己胺		D	S	3	2G	Cont.	No			No	R	F-T	A	N1	No	15.19.6
乙撐氧醇	1135	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A,D		E	15.12,15.17,15.19
乙撐氧醇		(D)	S	3	2G	Open	No		IIB	Yes	O	No	A		No	
乙二胺	1604	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	N2	No	16.2.9
二溴乙烷	1605	B	S/P	2	2G	Cont.	No		NF		C	T	No		E	15.12,15.19.6,16.2.9
二氯乙烷	1184	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A,B	N4	No	15.19
乙二醇丁基醚乙酸酯		(C)	P	3	2G	Open	No			Yes	O	No	A		No	
乙二醇二乙酸酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
環氧乙烷/氧化丙烯混合物，環氧乙烷重	2938	D	S	2	1G	Cont.	Inert	T2	IIB	No	C	F-T	A,C		No	15.8,15.12,15.14,15.15,15.19

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
量不超過30%																
2-乙基己基丙烯酸		B	S/P	3	2G	Open	No	T3	IIB	Yes	O	No	A		No	15.13,15.19.6, 16.6.1,16.6.2
2-乙基己基胺	2276	B	S/P	2	2G	Cont.	No			No	R	F-T	A	N2	No	15.12,15.19.6
亞乙基降冰片烯		B	S/P	2	2G	Cont.	No			No	R	F-T	A,D	N4	No	15.12.1,15.16.1,15.19.6
甲基丙烯酸乙酯	2277	(D)	S	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,D		No	15.13,16.6.1,16.6.2
乙基苯酚		(A)	S/P	3	2G	Open	No	T1	IIA	Yes	O	No	B		No	15.19.6
2-乙基-3-丙基丙烯醛		(B)	S/P	3	2G	Cont.	No		IIA	No	R	F-T	A		No	15.19.6,16.2.9
乙基甲苯		(B)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
氯化鐵溶液	2582	C	S/P	3	2G	Open	No		NF		O	No	No		No	15.11,15.19.6,16.2.9
硝酸鐵/硝酸溶液		C	S/P	2	2G	Cont.	No		NF		R	T	No		E	15.11,15.19
甲醛溶液(45%或以下)	1198(d) 2209	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		E	15.16.1,16.2.9
甲酸	1779	D	S	3	2G	Cont.	No	T1	IIA	No	R	T(v)	A	Y2, Y3	E	15.11.2至 15.11.4,15.11.6至 15.11.8
松酯富馬酸加合物，水分散法		B	P	3	2G	Open	No			Yes	O	No	No		No	15.19.6,16.2.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
糠醛	1199	C	S/P	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.16.1
糠醇	2874	C	P	3	2G	Open	No			Yes	O	No	A		No	
戊二醛溶液(50%或以下)		D	S	3	2G	Open	No		NF		O	No	No		No	15.16.1
C10 三烷基醋酸縮水甘油酯		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
庚烷(所有異構體)	1206	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
庚醇(所有異構體)(9)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
庚烯(所有異構體)		C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
醋酸庚酯		(B)	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
六亞甲基二胺溶液	1783	C	S/P	3	2G	Cont.	No			Yes	R	T	A	N2	No	15.19.6,16.2.9
六亞甲基亞胺	2493	C	S/P	2	2G	Cont.	No			No	R	F-T	A,C	N1	No	
己烷(所有異構體)	1208	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
己烯(所有異構體)		(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
醋酸己酯	1233	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
鹽酸	1789	D	S	3	1G	Cont.	No		NF		R	T	No		E(f)	15.11
過氧化氫溶液(大於8%但不超過60%)	2014 2984	C	S/P	3	2G	Cont.	No		NF F		C	No	No		No	15.5.14 至 15.5.26,15.18,15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
過氧化氫溶液(大於60%但不超過70%)	2015	C	S/P	2	2G	Cont.	No	NF		C	No	No	No	No	No	15.5.1 至 15.5.13,15.19.6
丙烯酸-2-羥己基酯		B	S/P	2	2G	Cont.	No	F	Yes	C	T	A	A	No	No	15.12,15.13,15.19.6, 16.6.1,16.6.2
乙酸異戊酯	1104	C	P	3	2G	Cont.	No		No	R	F	A	A	No	No	15.19.6
乙酸異丁酯	1213	C	P	3	2G	Cont.	No		No	R	F	A	A	No	No	15.19.6
丙烯酸異丁酯	2527	B	S/P	2	2G	Cont.	No	T2	IIB	No	R	F-T	A	No	No	15.13,15.19.6,16.6.1, 16.6.2
異丁醛	2045	C	S/P	3	2G	Cont.	No	T3	IIA	No	O	F-T	A	No	No	15.16.1
異佛爾酮二胺	2289	D	S/P	3	2G	Cont.	No			Yes	R	T	A	No	No	
異佛爾酮聚胺酯	2290	B	S/P	2	2G	Cont.	Dry		Yes	C	T	A,B,	A	No	No	15.12,15.16.2,15.17.1
異戊二烯	1218	C	S/P	3	2G	Cont.	No	T3	IIB	No	R	F	B	No	No	5.19.6 15.13,15.14,16.6.1,16.6.2
異丙醇胺		C	S/P	3	2G	Open	No	T2	IIA	Yes	O	F-T	A	No	No	16.2.8,16.2.9
異丙胺	1221	C	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	C,D	E	E	15.12,15.14,15.19
異丙基苯	1918	B	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6
異丙基環己烷		(C)	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6,16.2.7,16.2.8
異丙醚	1159	D	S	3	2G	Cont.	Inert			No	R	F	A	No	No	15.4.6,15.13.3,15.19.6
異戊醛	2058	C	S/P	3	2G	Cont.	Inert	T3	IIB	No	R	F-T	A	No	No	15.4.6,15.16.1

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
乳腈溶液(80%以下)		B	S/P	2	1G	Cont.	No			Yes	C	T	A,C,	Y1	E	15.1,15.12,15.17至 15.19,16.2.6,16.6
乳酸		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.6,16.2.9,16A.2.2
順丁烯二酐	2215	D	S	3	2G	Cont.	No			Yes	R	No	A(g), C		No	
硫基苯並噻哇·鈉鹽 溶液		B	S/P	3	2G	Open	No		NF		O	No	No	N1	No	15.19.6,16.2.9
異亞丙基丙酮	1229	D	S	3	2G	Cont.	No	T2	IIB	No	R	F-T	A		No	15.19.6
維己姆溶液		A	S/P	3	2G	Open	No		NF		O	No	No	N1	No	15.19.6
甲基丙烯酸	2531	D	S	3	2G	Cont.	No			Yes	R	T	A	Y1	No	15.13,16.6.1
甲基丙烯酸 甲酯	3079	(B)	S/P	2	2G	Cont.	No			No	C	F-T	A	N4, Z	E	15.12,15.13,15.17, 15.19
丙烯酸甲酯	1919	B	S/P	2	2G	Cont.	No	T1	IIB	No	R	F-T	A		E	15.13,15.19.6,16.6.1, 16.6.2
甲胺溶液(42%或以 下)	1235	C	S/P	2	2G	Cont.	No			No	C	F-T	A,C,	N1	E	15.12,15.17,15.19
醋酸甲基戊酯	1233	(C)	P	3	2G	Cont.	No			No	R	F	A			15.19.6
甲基戊基醇	2053	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
甲基戊基酮	1110	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
丁酸甲酯	1237	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
甲基環己烷	2296	(C)	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
甲基環戊二烯二聚物		(B)	P	3	2G	Cont.	No			No	R	F	B		No	15.19.6
2-甲基-6-乙基苯胺		C	S/P	3	2G	Open	No			Yes	O	No	A,D		No	
2-甲基-5-乙基吡啶	2300	(B)	S/P	3	2G	Open	No		IIA	Yes	O	No	A,D	N4	No	15.19.6
甲酸甲酯	1243	D	S	2	2G	Cont.	No			No	R	F-T	A		E	15.12,15.14,15.19
甲基庚基酮		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
2-甲基-2-羥基-3-丁炔		III	S	3	2G	Cont.	No		IIA	No	R	F-T	A,B,	N6	No	15.19.6
													D			
甲基丙烯酸甲酯	1247	D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A		No	15.13,16.6.1,16.6.2
2-甲基-1-戊烯	2288	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
2-甲基吡啶	2313	B	S/P	2	2G	Cont.	No			No	C	F	A	N4	No	15.12.3,15.19.6
4-甲基吡啶	2313	B	S/P	2	2G	Cont.	No			No	C	F-T	A	N4	No	15.12.3,15.19,16.2.9
N-甲基-2-吡咯烷酮		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
水楊酸甲酯		(B)	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
2-甲基苯乙烯	2303	A	S/P	3	2G	Cont.	No	T1	IIB	No	R	F-T	D		No	15.13,15.19.6,16.6.1,16.6.2
嗎啉	2054	D	S	3	2G	Cont.	No	T1	IIA	No	R	F	A	N2,	No	
													Z			
動力燃料抗爆擊化	1649	A	S/P	2	1G	Cont.	No	T4	IIA	No	C	F-T	A,C		E	15.6,15.12,15.18,15.1

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
化合物																9
萘(熔融)	2304	A	S/P	2	2G	Cont.	No	TI	IIA	Yes	R	No	A,D	No	No	15.19.6
環烷酸		A	P	2	2G	Open	No			Yes	O	No	A	No	No	15.19.6
新癸酸		C	P	3	2G	Open	No			Yes	O	No	A	No	No	16.2.8
硝化酸(硫酸和硝酸混合物)	1796	(C)	S/P	2	2G	Cont.	No		NF		C	T	No	E	E	15.11,15.16.2,15.17,15.19
硝酸(70%以下)	2031	C	S/P	2	2G	Cont.	No		NF		R	T	No	E	E	15.11,15.19
硝酸(70%以上)	2031	C	S/P	2	2G	Cont.	No		NF		C	T	No	E	E	15.11,15.19
	2032(h)															
硝基苯	1662	B	S/P	2	2G	Cont.	No	TI	IIA	Yes	C	T	A,D	No	No	15.12,15.17 至 15.19,16.2.9
鄰硝基苯酚(熔融)	1663	B	S/P	2	2G	Cont.	No			Yes	C	T	A,D	No	No	15.12,15.19.6, 16.2.6,16.2.9,16A.2.2
1-或-2-硝基丙烷	2608	D	S	3	2G	Cont.	No	T2	IIB	No	R	F-T	A	No	No	
硝基丙烷(60%)/硝基乙烷(40%)混合物		D	S	3	2G	Cont.	No			No	R	F-T	A(u)	No	No	
鄰或對硝基甲苯	1664	C	S/P	2	2G	Cont.	No		IIB	Yes	C	T	A,B	No	No	15.12,15.17,15.19,16.2.9
壬烷(所有異構體)	1920	(C)	P	3	2G	Cont.	No			No	R	F	B,C	No	No	15.19.6
壬烯		B	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	j	k	l	m	n	o
王醇(所有異構體)	C	P	3	2G	Open	No	Yes	O	No	A	No	No	No	15.19.6	
壬基酚	A	P	2	2G	Open	No	Yes	O	No	A	No	No	No	15.19.6, 16.2.6, 16.2.9, 16A.2.2(aa)	
壬基酚聚(4-12)乙氧基化物	B	P	3	2G	Open	No	Yes	O	No	A	No	No	No	15.19	
有毒液體, N.F., (1)	A	P	1	2G	Open	No	Yes	O	No	A	No	No	No	15.19	
n.o.s. (品名....., 含有.....)															
S.T.1, A類															
有毒液體, F, (2)	A	P	1	2G	Cont.	No	No	R	F	A	No	No	No	15.19	
n.o.s. (品名....., 含有.....)															

* 如果某一具體 n.o.s 貨物被確定為屬於船上裝運的這一 n.o.s.的類別，則該項，包括貨物品名和一、二種主要成分，應在航運文件中予以提供。所用縮略語意為：

- N.F: 超過 60°C 的閃點 (閉杯試驗)
- F: 不超過 60°C 的閃點 (閉杯試驗)
- n.o.s: 未列名的

- S.T.: 船型
- Cat.: 污染類別
- m.p.: 熔點

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
有.....)																
S.T.1, A 類*																
有毒液體, N.F., (3)	A	P	2	2G	Open	No	No	Yes	O	No	A	No	15.19.6			
n.o.s.																
(品名....., 含有.....)																
S.T.2, A 類*																
有毒液體, F., (4)	A	P	2	2G	Cont.	No	No	No	R	F	A	No	15.19.6			
n.o.s.																
(品名....., 含有.....)																
S.T.2, A 類*																
有毒液體, N.F., (5)	B	P	2	2G	Open	No	No	Yes	O	No	A	No	15.19.6, [16.2.6, 16.2.9]**			
n.o.s.																
(品名....., 含有.....)																
S.T.2, B 類*																

* 見第 25 頁腳註。

** 適用於高黏性 or 高熔點物品。

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
有毒液體, N.F., (6)	B	P	2	2G	Open	No	Yes	O	No	A	No	15.19.6,[16.2.6]**,16				.2.9,16A.2.2
n.o.s. (品名....., 含 有.....)																
S.T.2, B 類*, mp15 °C+																
有毒液體, F, (7)	B	P	2	2G	Cont.	No	No	R	F	A	No	15.19.6,[16.2.6,16.2.				9]**
n.o.s. (品名....., 含 有.....)																
S.T.2, B 類*																
有毒液體, F, (8)	B	P	2	2G	Cont.	No	No	R	F	A	No	15.19.6,[16.2.6]**,16				.2.9,16A.2.2
n.o.s. (品名....., 含 有.....)																
S.T.2, B 類*, mp15 °C+																
有毒液體, N.F., (9)	A	P	3	2G	Open	No	Yes	O	No	A	No	15.19.6				
n.o.s.																

* 見第 25 頁腳註。

a (品名……，含 有……)	b	c	d	e	f	g	h	i ^p	i ^r	i ^{rr}	j	k	l	m	n	o
S.T.3, A 類*	A	P	3	2G	Cont.	No	No	No	No	No	R	F	A	No	15.19.6	
有毒液體，F，(10)																
n.o.s.																
(品名……，含 有……)																
S.T.3, A 類*																
有毒液體，N.F.，(11)	B	P	3	2G	Open	No	No	Yes	O	No	No	A	No	15.19.6, [16.2.6,16.2.9]**		
n.o.s.																
(品名……，含 有……)																
S.T.3, B 類*																
有毒液體，N.F.，(12)	B	P	3	2G	Open	No	No	Yes	O	No	No	A	No	[15.19.6]**,16.2.9, 16A.2.2		
n.o.s.																
(品名……，含 有……)																

** 適用於高黏性或高熔點物品。

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
S.T.3, B 類*, mp15 °C+																
有毒液體, F, (13)	B	P	3	2G	Cont.	No	No	No	No	No	R	F	A	No	15.19.6,[16.2.6,16.2.9]**	
n.o.s. (品名....., 含有.....)																
S.T.3, B 類*																
有毒液體, F, (14)	B	P	3	2G	Cont.	No	No	No	No	No	R	F	A	No	15.19.6,[16.2.6]** 16.2.9,16A.2.2	
n.o.s. (品名....., 含有.....)																
S.T.3, B 類*, mp15 °C+																
有毒液體, N.F., (15)	C	P	3	2G	Open	No	No	Yes	O	No	A	No	[16.2.7 至 16.2.9]**			
n.o.s. (品名....., 含有.....)																
S.T.3, C 類*																

* 見第 25 頁腳註。

** 適用於高黏性或高熔點物品。

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
有毒液體, F, (16)		C	P	3	2G	Cont.	No	No	No	R	R	F			No	[16.2.7 至 16.2.9]**
n.o.s.																
(品名……, 含有……)																
S.T.3, C 類*																
辛烷(所有異構體)	1262	(C)	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6
辛醇(所有異構體)		C	P	3	2G	Open	No	No	Yes	O	O	No	A		No	
辛烯(所有異構體)		B	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6
辛醛	1191	(B)	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6, 16.2.9
硝酸辛酯(所有異構體)		A	S/P	2	2G	Open	No	No	Yes	O	O	No	A, B		No	15.19.6, 15.20, 16.6
烯烴混合物(C5-C7)		C	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6
烯烴混合物(C5-C15)		B	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6
γ- 烯烴(C6-C18)混合物		B	P	3	2G	Cont.	No	No	No	R	R	F	A		No	15.19.6, 16.2.6, 16.2.9
發煙烷酸	1831	C	S/P	2	2G	Cont.	No	No	NF	C	C	T	No		E	15.11.2 至 15.11.8, 15.12.1, 15.16.2, 15.17, 15.19, 16.2.7, 16.2.8
棕櫚堅果油脂脂肪酸		(C)	P	3	2G	Open	No	No	Yes	O	O	No	A, B		No	16.2.7 至 16.2.9

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
仲醛	1264	C	S/P	3	2G	Cont.	No	T3	IIB	No	R	F	A	No	No	16.2.9
五氯乙烷	1669	B	S/P	2	2G	Cont.	No		NF		R	T	No	No	No	15.12,15.17,15.19.6
1,3-戊二烯		C	S/P	3	2G	Cont.	No			No	R	F-T	A,B	No	No	15.13,16.6
戊烷(所有異構體)	1265	(C)	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6
戊烯(所有異構體)		C	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6
全氯乙烷	1897	B	S/P	3	2G	Cont.	No		NF		R	T	No	No	No	15.12.1,15.12.2,15.19.6
苯酚	2312	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A	No	No	15.12,15.19,16.2.6,16.2.9,16A.2.2
1-苯基-1-二甲苯基乙烷		C	P	3	2G	Open	No			Yes	O	No	A,B	No	No	
磷酸	1805	D	S	3	2G	Open	No		NF		O	No	No	No	No	15.11.1 至 15.11.4, 15.11.6 至 15.11.8
磷(黃或白)	1381	A	S/P	1	1G	Cont.			Padt+(Vent 或 Inert)	No	C	No	C	E	E	15.7,15.19
鄰苯二甲酸酐(熔融)	2214	C	S/P	3	2G	Cont.	No	T1	IIA	Yes	R	No	A,D	No	No	16.2.7 至 16.2.9
蒽烯	2368	B	P	3	2G	Cont.	No			No	R	F	A	No	No	15.19.6
聚乙烯胺	2734(i)	(C)	S/P	3	2G	Open	No			Yes	O	No	A	N2	No	16.2.9
硫酸多鐵溶液	2735	(C)	S/P	3	2G	Open	No		NF		O	No	No	Y4	No	No

a	b	c	d	e	f	g	h	i'	i''	j	k	l	m	n	o
聚甲基聚苯基異	2206(i)	D	S	2	2G	Cont.	Dry		Yes	C	T(b	A	N5	No	15.12,15.16.2,15.19.6
氨酸酯	2207								(b))				
氫氧化鉀溶液	1814	C	S/P	3	2G	Open	No	NF		O	No	No	N8	No	16.2.9
正丙醇胺		C	S/P	3	2G	Open	No		Yes	O	No	A,D	N2	No	16.2.9
β-丙醇酸內酯		D	S	2	2G	Cont.	No	IIA	Yes	R	T	A		No	
丙醛	1275	D	S	3	2G	Cont.	No		No	R	F-T	A		E	15.16.1,15.17
丙酸	1848	D	S	3	2G	Cont.	No	T1	No	R	F	A	Y1	E	15.11.2 至 15.11.4, 15.11.6 至 15.11.8
丙酸酐	2496	C	S/P	3	2G	Cont.	No	T2	Yes	R	T	A	Y1	No	
丙腈	2404	C	S/P	2	1G	Cont.	No	T1	No	C	F-T	A,D		E	15.12,15.17 至 15.19
正丙胺	1277	C	S/P	2	2G	Cont.	Inert	T2	No	C	F-T	A,D	N2	E	15.12,15.19
正丙苯		(C)	P	3	2G	Cont.	No		Yes	R	F	A		No	15.19.6
二聚丙烯		(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
氧化丙烯	1280	D	S	2	2G	Cont.	Inert	T2	No	C	F-T	A,C	Z	No	15.8,15.12.1,15.14,15 .15,15.19
四聚丙烯	2850	B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
三聚丙烯	2057	B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
吡啶	1282	D	S	3	2G	Cont.	No	T1	No	R	F	A	N4	No	15.19.6
松香		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6,16.2.6,16.2.9, 16A.2.2

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
松香皂(無比例)溶液		B	P	3	2G	Open	No		Yes	O	No	A			No	15.19.6
硼氫化鈉(15%或以下)氫氧化鈉溶液		C	S/P	3	2G	Open	No	NF		O	No	No	N1		No	16.2.7
2428 氫化鈉溶液(50%或以下)		III	S	3	2G	Open	No	NF		O	No	No			No	15.9,15.16.1,15.19.6
重鉻酸鈉溶液(70%或以下)		C	S/P	2	2G	Open	No	NF		C	No	No	N2		No	15.12.3,15.19
亞硫酸氫鈉溶液(35%或以下)	2693	D	S	3	2G	Open	No	NF		O	No	No			No	
氫硫化鈉溶液(45%或以下)	2949	B	S/P	3	2G	Cont.	Vent 或 Pad(gas)	NF		R	T	No			No	15.16.1,15.19.6,16.2.9
氫硫化鈉硫化胺溶液		B	S/P	2	2G	Cont.	No		No	C	F-T	A	N1		E	15.12,15.14,15.16.1,15.17,15.19,16.6
1824 氫氧化鈉溶液		D	S	3	2G	Open	No	NF		O	No	No	N8		No	
1791 次氫化鈉溶液(15%或以下)		C	S/P	3	2G	Cont.	No		Yes	R	No	No	N5		No	15.16.1
1500 亞硝酸鈉溶液		B	S/P	2	2G	Open	No	NF		O	No	No			No	15.12.3.1,15.12.3.2,15.16.1,15.19
硫氰酸鈉溶液(56%或以下)	(B)	P	P	3	2G	Open	No		Yes	O	No	No			No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
苯乙烯單體	2055	B	S/P	3	2G	Cont.	No	T1	IIA	No	O	F	A,B	N4, Z	No	15.13,15.19.6,16.6.1, 16.6.2
硫(熔融)	2448	III	S	3	1G	Open	Vent 或 T3 Pad(gas)			Yes (1)	O	F-T	No		No	15.10
硫酸	1830	C	S/P	3	2G	Open	No	NF	NF	O	No	No	No		No	15.11,15.16.2,16.2.8, 16.2.9
廢硫酸	1832	C	S/P	3	2G	Open	No	NF	NF	O	No	No	No		No	15.11,15.16.2,16.2.8, 16.2.9
妥爾油(粗製和精製)		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6,16.2.9, 16A.2.2
妥爾油脂肪酸(樹酯 酸含量低於 20%)		(C)	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7 至 16.2.9
妥爾油(五比例)溶液		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6,16.2.6,16.2.9
四氧乙烷	1702	B	S/P	3	2G	Cont.	No		NF	R	T	No	No		No	15.12,15.17,15.19.6
四乙烯五胺	2320	D	S	3	2G	Open	No			Yes	O	No	A	N1	No	
四氫呋喃	2056	D	S	3	2G	Cont.	No	T3	IIB	No	R	F-T	A		No	
四氫化萘		C	P	3	2G	Open	No			Yes	O	No	A		No	
1,2,3,5-四甲基苯		(C)	P	3	2G	Open	No			Yes	O	No	A		No	
甲苯	1294	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
甲苯二胺	1709	C	S/P	2	2G	Cont.	No			Yes	C	T	A,D	N1	E	15.12,15.17,15.19,16.

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
甲基二異氰酸鹽	2078	C	S/P	2	2G	Cont.	Dry	T1	IIA	Yes	C	E	A,C(c), D	N4	No	15.12,15.16.2,15.17,1 2.7,16.2.9
鄰甲苯胺	1708	C	S/P	2	2G	Cont.	No	No		Yes	C	T	A		No	15.12,15.17,15.19
磷酸三丁酯		B	P	3	2G	Open	No	No		Yes	O	No	A		No	15.19.6
1,2,4-三氯苯	2321	B	S/P	2	2G	Cont.	No	No		Yes	R	T	A,B		No	15.19.6,16.2.9,16A.2.2
1,1,1-三氯乙烷	2831	B	P	3	2G	Open	No	No		Yes	O	No	A		No	15.19.6
1,1,2-三氯乙烷		B	S/P	3	2G	Cont.	No	No	NF		R	T	No		No	15.12.1,15.19.6
三氯乙烯	1710	B	S/P	3	2G	Cont.	No	T2	IIA	Yes	R	T	No		No	15.12,15.16.1,15.17,1 5.19.6
1,2,3-三氯丙烷		B	S/P	2	2G	Cont.	No	No		Yes	C	T	A,B, D		No	15.12,15.17,15.19
1,1,2-三氯-1,2,2-三 氯乙烷		C	P	3	2G	Open	No	No	NF		O	No	No		No	
磷酸三甲苯酯(含有 小於1%的其他異構 體)		A	P	2	2G	Open	No	No		Yes	O	No	A		No	15.19.6
磷酸三甲苯酯(含有 1%或以上的鄰位異 構體)	2574(j)	A	S/P	1	2G	Cont.	No	T2	IIA	Yes	C	No	A,B		No	15.12.3,15.19

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
三乙醇胺		D	S	3	2G	Open	No		IIA	Yes	O	No	A	N1	No	
三乙醇	1296	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A,C	N2	E	15.12
三甲基苯		A	P	2	2G	Open	No			Yes	O	No	A		No	15.19.6
三乙烯四胺	2259	D	S	3	2G	Open	No	T2	IIA	Yes	O	No	A	N1	No	
磷酸三乙酯	2323		S	3	2G	Cont.	No			No	R	F-T	A,B		No	15.12.1
三甲基醋酸		D	S	3	2G	Cont.	No			Yes	R	F	A	Y1	No	15.11.2 至 15.11.8
三甲基苯(所有異構體)		B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
三甲基二胺(2,2,4-和 2,4,4-異構體)	2327	D	S	3	2G	Open	No			Yes	O	No	A,C	N1	No	15.19.6
三甲基三異氰酸酯(2,2,4 和 2,4,4-異構體)	2328	B	S/P	2	2G	Cont.	Dry			Yes	C	T	A,C(c)		No	15.12,15.16.2,15.17,15.19.6
2,2,4-三甲基-1-3-戊二醇-1-異丁酸酯		C	P	3	2G	Open	No			Yes	O	No	A		No	
亞磷酸三甲酯	2329		S	3	2G	Cont.	No			No	R	F-T	A,D		No	15.12.1,15.16.2,15.19.6
磷酸三雙甲苯酯		A	P	1	2G	Open	No			Yes	O	No	A		No	15.19
松節油	1299	B	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
十一烷酸		(C)	P	3	2G	Open	No			Yes	O	No	A		No	16.2.7 至 16.2.9
1-十一碳烯		B	P	3	2G	Open	No			Yes	O	No	A		No	15.19.6

a	b	c	d	e	f	g	h	i'	i''	i'''	j	k	l	m	n	o
十一醇		B	P	3	2G	Open	No			Yes	O	No	A		No	16.2.9,16A.2.2(t)
尿素/硝酸鉍溶液(含氨水)		C	S/P	3	2G	Cont.	No		NF		R	T	A	N4	No	
正戊醛	2058	D	S	3	2G	Cont.	Inert	T3	IIB	No	R	F-T	A		No	15.4.6,15.16.1
醋酸己烯酯	1301	C	S/P	3	2G	Cont.	No	T2	IIA	No	O	F	A		No	15.13,16.6.1,16.6.2
乙烯基乙醚	1302	C	S/P	2	1G	Cont.	Inert	T3	IIB	No	C	F-T	A	N6	E	15.4,15.13,15.14,15.19,16.6.1,16.6.2
亞乙烯基二氯	1303	B	S/P	2	2G	Cont.	Inert	T2	IIA	No	R	F-T	B	N5	E	15.13,15.14,15.19.6.1,6.6.1,16.6.2
新癸酸乙烯酯		B	S/P	3	2G	Open	No			Yes	O	No	A,B		No	15.13,15.16.1,15.19.6,16.6.1,16.6.2
乙烯甲苯	2618	A	S/P	3	2G	Cont.	No		IIA	No	R	F	A,B	N1	No	15.13,15.19.6,16.6.1,16.6.2,
石油溶劑，含低度(15-20%)芳香味化合物	1300	(B)	P	2	2G	Cont.	No			No	R	F	A		No	15.19.6
二甲苯	1307	C	P	3	2G	Cont.	No			No	R	F	A		No	15.19.6,16.2.9(w)
二甲苯酚	2261	B	S/P	3	2G	Open	No		IIA	Yes	O	No	A,B		No	15.19.6,16.2.9,16A.2

《國際散化規則》的腳註

- a 適用於 28%或以下但不低於 10%的氨水。

氨水（28%或以下）

- b 為所載運的貨品含有閉杯閃點不超過 60°C 的易燃溶劑，則應設有特殊電氣系統和易燃蒸氣探測器。

二苯甲烷聚氨酯

聚甲撐基聚苯基異氰酸酯

- c 儘管水適合於熄滅含有本腳註適用的化學品的露天火災，但水不得污染裝有這些化學品的封閉液貨艙，因會引起產生有害蒸氣的危險。

二苯甲烷聚氨酯

甲基二異氰酸酯

三甲基己二異氰酸酯（2,2,4-和 2,4,4-異構體）

- d 聯合國編號 1198 僅適用於閉杯閃點低於 60°C 時。

甲醛溶液（45%或以下）

- e 適用於 45%或其以下但不低於 5%的甲醛溶液。

甲醛溶液（45%或以下）

- f 適用於不低於 10%的鹽酸。

氯化鋁（30%或以下）/ 鹽酸（20%或以下）溶液

鹽酸

g 由於具有引起爆炸的可能性，因而不能使用化學乾粉。

順丁烯二酐

h 聯合國編號 2032 係指定為紅色發煙硝酸的編號。

硝酸（70%及以上）

i 聯合國編號因物質的沸點而定。

聚乙烯聚胺

聚甲撐基聚苯基異氰酸酯

j 標有聯合國編號的這一物質含有 3%以上的鄰位異構體。

磷酸三甲苯酯（含有 1%或以上的鄰位異構體）。

k 磷（黃或白）係在其自燃溫度以上的情況下進行運輸，因此閃點不適用。電氣設備的要求可與閉杯閃點在 60°C 以上的物質的設備要求相類似。

磷（黃或白）

l 硫（熔融）的閉杯閃點在 60°C 以上，但電氣設備應經核證，以便在所產生的氣體中安全使用。

硫（熔融）

m 聯合國編號 2672 適用於 10-35%的氨溶液。

氨水（28%或以下）

n 聯合國編號 2511 僅適用於 2-氯丙酸。

2-或 3-氯丙酸

o 二硝基甲苯不得裝於甲板上的液貨艙中。

二硝基甲苯（熔融）

p 應使用感溫器監測貨泵溫度，以探測由於貨泵故障而產生的高溫。

二硝基甲苯（熔融）

q 要求係根據閉杯閃點為 60°C 或其以下的異構體而確定的；有些異構體的閉杯閃點高於 60°C，因此根據可燃性確定的要求不適用於這些異構體。

庚醇（所有異構體）

r 特殊要求欄中應參閱的 16A.2.2 僅適用於 1-十一醇。

十一醇

s 僅適用於正十二烷基乙醇。

十二烷基乙醇（所有異構體）

t 聯合國編號 1114 適用於苯。

含苯 10%或以上的苯及混合物

- u 化學乾粉不得用作消防劑。

硝基丙烷（60%）/ 硝基乙烷（40%）混合物

- v 應對甲酸蒸氣和易分解物質一氧化碳氣體的限定處所進行測試。

甲酸

- w 僅適用於對二甲苯。

二甲苯

- x 適用於對異構體及含有 20°C 時黏度為 25mPa.s 的對異構體混合物。

二氯苯（所有異構體）

- y 適用於對異構體及含有熔點為 0°C 及以上的對異構體混合物。

二氯苯（所有異構體）

- z 適用於對異構體及含有熔點為 15°C 及以上的對異構體混合物。

二氯苯（所有異構體）

- aa 僅適用於熔點為 15°C 及以上的物質。

壬基酚多（4-12）乙氧基化物

- 10 以下述內容取代《國際散化規則》第 18 章：

“第 18 章 不適用於本規則的化學品名單

1. 下面是不列入本規則範圍內的一些貨品的名單。該名單對考慮散裝運輸那些危險性尚未評定的貨品，可作為指導性資料。

2. 雖然本章所列貨品不在本規則的範圍內，主管機關仍應注意，為安全運輸計，仍需採取一些安全措施。因此，主管機關應規定適當的安全要求。

註 釋

貨品名稱 (a 欄)	在有些情況下，貨品名稱可能與以前版本的《國際散化規則》或《散化規則》中所列名稱不一致（說明見化學品索引）。
聯合國編號 (b 欄)	係指“聯合國危險品運輸專家委員會”所提的建議案內有關每一貨物的編號。所列的聯合國編號僅供參考。
污染類別 (c 欄)	字母 D 表示對《73/78 防污公約》附則 II 中的每一貨物所確定的污染類別。“III”表示該貨品已被判定並被認為不屬於 A、B、C 或 D 類。 括弧中的污染類別表明該貨品已被暫時分類，並且，要判定其污染危害尚須進一步資料。在危害性完全確定之前，暫用所指定的污染類別。

a 貨品名稱	b 聯合國編號	c 操作排放時的污染類別 (附則 II 第三條)
丙酮	1090	III
醇 (C ₁₃ 及以上)	-	III
酒精飲料，未另說明時	3065	III
烷基 (C ₉ -C ₁₇) 苯	-	(D)
硫酸鋁溶液	-	D

氨基二乙醇胺/氨基乙醇胺 溶液	-	III
2-氨基-2-羥甲基-1,3-丙二醇溶 液（40%或以下）	-	III
硫酸銨溶液	-	D
正戊醇	1105	D
仲戊醇	1105	D
叔戊醇	1105	III
伯戊醇	1105	D
動物油和魚油，未另說明時，包 括：	-	D
鱈魚肝油		
鯨蠟油		
蘋果汁	-	III
二十二醇		III
苯三甲酸，三辛基酯	-	III
制動液原始混合物：	-	D
（聚(2-8)亞烷基(C ₂ -C ₃)甘醇/聚 亞烷基(C ₂ -C ₁₀)甘醇-烷基 (C ₁ -C ₄)醚及其硼酸鹽酯) ¹		
醋酸仲丁酯	1123	D
正丁醇	1120	III
仲丁醇	1120	III
叔丁醇	1120	III
丁二醇	-	D
硬脂酸丁酯	-	III
γ-丁內酯	-	D
碳酸鈣漿	-	III
氫氧化鈣漿	-	D
硝酸鈣/硝酸鎂/氯化鉀溶液		III
e-己內酰胺(熔融或水溶液)	-	D
十六烷基/十八烷酰醇		III
氯化石蠟(C ₁₄ -C ₁₇)（含氯 52%）		III
膽碱鹽酸鹽溶液	-	D

¹ 在航運文件中，“制動液原始混合物”作為專有名詞使用。

泥漿		III
煤漿		III
椰油脂肪酸甲酯		D
十氫化萘	1147	(D)
癸苯	-	D
葡萄糖溶液	-	III
雙丙酮醇	1148	D
鄰苯二甲酸 (C ₇ -C ₁₃) 二烷基酯	-	D
二甘醇	-	III
二甘醇丁醚	-	III
二甘醇丁醚乙酸酯	-	(D)
二甘醇二丁醚	-	D
二甘醇二乙醚	-	III
二甘醇乙醚	-	III
二甘醇乙醚乙酸酯	-	(D)
二甘醇甲醚乙酸酯	-	(D)
二亞乙基三胺五乙酸,五鈉鹽溶液	-	III
己二酸二(2-乙基己基)酯	-	D
鄰苯二甲酸二寅酯	-	III
鄰苯二甲酸雙己烷基酯	-	III
1,4-二氫-9,10-二羥基蒽二鈉鹽 溶液	-	D
二異丁基甲酮	1157	D
鄰苯二甲酸二異丁酯	-	D
己二酸二異壬基酯	-	D
鄰苯二甲酸二異辛酯	-	III
二異丙基萘	-	D
2,2-二甲基丙烷-1,3-二醇	-	(D)
鄰苯二甲酸二壬基酯	-	D
鄰苯二甲酸二辛酯	-	III
二丙二醇	-	III
二丙基乙二醇甲醚	-	(D)
鄰苯二甲酸雙十三烷基酯	-	D
鄰苯二甲酸雙十一烷基酯	-	D
十二烷(所有異構體)	-	III

十二碳烯基丁二酸，二鉀鹽溶液	-	(D)
十二烷基苯	-	III
鑽孔鹽水：	-	III
溴化鈣溶液		
氯化鈣溶液		
氯化鈉溶液		
2-乙氧基正醇	1171	D
酯酸乙酯	1173	D
乙酰醋酸乙酯	-	(D)
乙醇	1170	III
碳酸亞乙酯	-	III
乙二胺四乙酸四鈉鹽溶液	-	D
乙二醇	-	D
乙二醇醋酸酯	-	(D)
乙二醇丁醚	2369	III
乙二醇叔丁醚	-	III
乙二醇乙丙醚	-	D
乙二醇甲基丁基醚	-	D
乙二醇甲醚	1188	D
乙二醇甲醚醋酸酯	1189	D
乙二醇苯醚	-	D
乙二醇苯醚/二乙二醇苯醚混合物	-	D
乙酸乙基乙烯酯共聚物（乳化物）	-	III
2-乙基己酸	-	D
丙酸乙酯	1195	D
脂肪酸（飽和狀況為 C ₁₃ 及以上）	-	III
經乙基鐵乙二胺三醋酸三鈉鹽溶液	-	D
甲酰胺	-	D
葡萄糖溶液	-	III
甘油	-	III
甘油聚烷氧基	-	III
甘油三乙酸酯	-	(III)
甘氨酸，鈉鹽溶液	-	III

乙二醛溶液（40%或以下）	-	D
正庚酸	-	D
六亞甲基二胺己二酸酯（水中溶 度 50%）	-	D
1,6-己二醇	-	III
六亞甲基四胺溶液	-	D
己酸	-	D
己醇	2282	D
己二醇	-	III
N-（羥乙基）乙二胺三醋酸，三 鈉鹽溶液	-	D
異戊醇	1105	D
異丁醇	1212	III
甲酸異丁酯	2393	D
異佛爾酮	-	D
醋酸異丙酯	1220	III
異丙醇	1219	III
高嶺土漿	-	III
乳酸	-	D
豬脂	-	III
膠乳：		
羧基化苯乙烯-丁二烯共聚物		
丁苯橡膠	-	III
木素磺酸，鈉鹽溶液	-	III
氯化鎂溶液	-	III
氫氧化鎂漿	-	III
3-甲氧基-1-乙醇	-	III
醋酸-3-甲氧基丁酯	-	D
醋酸-3-甲氧基丁酯	1231	III
乙酰乙酸甲酯	-	D
甲醇	1230	III
甲基丁烯醇	-	(D)
甲基叔丁基醚	2398	D
甲基丁基酮	-	D
甲基丁基卡因醇	-	D

甲基乙基酮	1193	III
甲基異丁基酮	1245	D
3-甲基-3-甲氧基丁醇	-	III
乙酸-3-甲基-3-甲氧基丁酯	-	III
糖蜜	-	III
萘磺酸/甲醛共聚物，鈉鹽溶液	-	D
次氨基三乙酸三鈉鹽溶液	-	D
壬基酸（所有異構體）	-	D
壬基丁烯酸單體	-	(D)
有毒液體，n.o.s. (17) （品名……，含有……）	-	D
D類 ¹		
有毒液體，n.o.s.(18) （品名……，含有……）	-	III
附錄 III ¹		
辛酸（所有異構體）	-	D
醋酸辛酯	1262	D
辛酯癸基己二酸酯	-	III
烯烴（C ₁₃ 及以上，所有異構體）	-	III
γ-烯烴（C ₁₃ -C ₁₈ ）	-	III
油酸	-	D
棕櫚油脂肪酸甲酯	-	D
棕櫚硬脂精	-	D
正鏈烷烴（C ₁₀ -C ₂₀ ）	-	III
石蠟	-	III
五乙六胺	-	D
戊酸	-	D
礦脂	-	(III)
氯化多鋁溶液	-	III
聚丁烯	-	III
聚乙二醇	-	III
聚乙二醇二甲醚	-	III
聚丙二醇	-	D

¹ 當某一具體的 n.o.s.(未另說明的)貨物被確定為屬於該 n.o.s.的類別並用船舶運輸時，則該項，包括貨物名稱和一、二種主要成分，應在航運文件中予以提供。

聚丙二醇甲醚	-	III
聚硅氧烷	-	III
醋酸正丙酯	1276	D
正丙醇	1274	III
丙烯/丁烯共聚物	-	III
丙二醇	-	III
丙二醇乙醚	-	(D)
丙二醇甲醚	-	(D)
丙二醇單烷基醚	-	(D)
硅酸鋁鈉漿	-	III
碳酸鈉溶液	-	D
水揚酸鈉溶液	-	D
山梨醇溶液	-	III
四氫噻吩砒	-	D
動物脂	-	D
動物脂脂肪酸	-	(D)
次丁基乙二醇	-	III
十三烷	-	III
十三烷酸	-	(III)
三甘醇	-	III
三甘醇丁醚	-	III
三甘醇乙醚	-	(D)
三甘醇甲醚	-	(D)
三異丙醇胺	-	III
三羥甲基丙烷聚羥乙基	-	D
三聚丙二醇	-	III
三聚丙二醇甲醚	-	(D)
尿素/磷酸單氫和雙氫銨/氯化鉀 溶液	-	(D)
尿素/硝酸銨溶液	-	D
尿素/磷酸銨溶液	-	D
尿素甲醛樹脂溶液	-	III
尿素溶液	-	III

植物油，未另說明時，包括：	-	D
蓖麻油，椰子油，玉米油，棉		
籽油，花生油，亞麻子油，橄		
欖油，棕櫚堅果油，棕櫚油，		
菜籽油，米糠油，紅花油，芝		
麻油，大豆油，葵花油，桐油		
植物蛋白溶液（水解）	-	III
水	-	III”

RESOLUTION MSC.14(57)

adopted on 11 April 1989

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
DANGEROUS CHEMICALS IN BULK (IBC CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING FURTHER article VIII(b) and regulation VII/8.1 of the International Convention for the Safety of Life at Sea, 1974, as amended, concerning the procedure for amending the IBC Code,

NOTING resolution MEPC.32(27) by which the Marine Environment Protection Committee (MEPC) adopted the amendments to the IBC Code for the purposes of MARPOL 73/78,

HAVING CONSIDERED, at its fifty-seventh session, amendments to the Code proposed and circulated by the Secretary-General 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 Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 12 April 1990 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 note that, in accordance with article VIII(b)(vi)(2) of the Convention, the amendments shall enter into force on 13 October 1990 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, as amended;
5. FURTHER REQUESTS the Secretary-General to transmit copies of the resolution and its Annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

1989 AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS
CARRYING DANGEROUS CHEMICALS
IN BULK (IBC CODE)

- 1 Regulation 1.1.2: In the second line, the word "absolute" is inserted between the words "bar" and "at".
- 2 Regulation 11.3.2: The last sentence is amended to read: "Regular protein foam should not be used".
- 3 Regulation 11.4 Special Requirements: The existing text is amended to read: "Fire-extinguishing media determined to be effective for certain products are listed in column "1" in the table of chapter 17".
- 4 Regulation 15.1 Acetone cyanohydrin:
 - .1 The words "and Lactonitrile solution (80% or less)" are added to the title.
 - .2 The first sentence is amended to read: "Acetone cyanohydrin and Lactonitrile solution (80% or less) should ...".
- 5 Regulation 15.10.1 (Spanish text only):
 - .1 In line 4, the word "dadas" is replaced by "para todas".
- 6 New regulation 15.20 Octyl nitrates: New regulation 15.20 Octyl nitrates is added as follows:

"15.20 Octyl nitrates, all isomers

15.20.1

The carriage temperature of the cargo should be maintained below 100°C to prevent the occurrence of a self-sustaining, exothermic decomposition reaction.

15.20.2

The cargo may not be carried in independent pressure vessels permanently affixed to the vessel's deck unless:

- .1 the tanks are sufficiently insulated from fire; and
- .2 the vessel has a water deluge system for the tanks such that the cargo temperature is maintained below 100°C and the temperature rise in the tanks does not exceed 1.5°C/hour for a fire of 650°C (1200°F)."

7 Regulation 16.7: Reference to "15.8.15", "15.8.21", "15.8.35", "15.8.36" and "15.8.37" are deleted.

8 Chapter 17 - Explanatory note for fire protection:

.1 the phrase "or multi-purpose foam" is added to the note for "A: alcohol-resistant foam";

.2 a footnote is added to "D: dry chemical", as follows:

"Dry chemical powder systems when used may require an additional water system for boundary cooling. This is normally provided in sufficient quantities by the standard fire main system required by regulation II-2/4 of the 1974 SOLAS Convention as amended."

9 Chapter 17 - The Table and footnotes

The Table of Summary of Minimum Requirements and footnotes are replaced by the following:

Product name	UN number	Pollution category	Hazards	Shlp type	Tank type	Tank vents	Tank environmental control	Electrical equipment										Special requirements (See chapter 15)
								b	c	d	e	f	g	h	i	j	k	
Acetic acid		D S 3	2G	Cont. No				T1 IIA No	R F	A	Y1,2	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8					
Acetic anhydride	1715	D S 2	2G	Cont. No				T2 IIA No	R F-T	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8					
Acetone cyanohydrin	1541	A S/P 2	2G	Cont. No				T1 IIR Yes	C T	A	Y1	E	15.1, 15.12, 15.17 to 15.19, 16.6					
Acetonitrile	1648	III S 2	2G	Cont. No				T2 IIR No	R F-T	A	No	No	15.12					
Acrylamide solution (50% or less)	2074	D S 2	2G	Open No				NF	C No	No	No	No	15.12.3, 15.13, 15.16.1, 15.19.6, 16.6.1					
Acrylic acid	2218	D S 3	2G	Cont. No				T2 IIR No	R F-T	A	Y1	No	15.13, 16.6.1					
Acrylonitrile	3093	B S/P 2	2G	Cont. No				T1 IIB No	C F-T	A	N3,2	E	15.12, 15.13, 15.17, 15.19					
Adiponitrile	2205	D S 3	2G	Cont. No				IIB Yes	R T	A	No	No	15.19.6					
Alcohol (C12-C15) poly(1-3) ethoxylates		A P 2	2G	Open No				Yes	O No	A	No	No	15.19.6					
Alcohol (C12-C15) poly(3-11) ethoxylates		A P 2	2G	Open No				Yes	O No	A	No	No	15.19.6					
Alcohol (C6-Cl7)(secondary) poly(3-6) ethoxylates		A P 2	2G	Open No				Yes	O No	A	No	No	15.19.6					
Alcohol (C6-Cl7)(secondary) poly(7-12) ethoxylates		B P 3	2G	Open No				Yes	O No	A	No	No	15.19.6, 16.2.6, 16.2.9					
Alkyl acrylate-vinyl pyridine copolymer in toluene		C P 3	2G	Cont. No				No	R F	A	No	No	15.19.6					
Alkyl benzene sulphononic acid	2584, 2586	C S/P 3	2G	Open No				Yes	O No	A	No	No	16.2.7, 16.2.8					
Alkyl benzene sulphononic acid, sodium salt solution		C P 3	2G	Open No				NF	O No	No	No	No	16.2.7 to 16.2.9					

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
Allyl alcohol	1098	B	S/P	2	2G	Cont.	No	T2 IIB	No	C	F-T	A		E	15.12, 15.17, 15.19
Allyl chloride*	1100	B	S/P	2	2G	Cont.	No	T2 IIA	No	C	F-T	A		E	15.12, 15.17, 15.19
Aluminium chloride (30% or less)/hydrochloric acid (20% or less) solution		D	S	3	1G	Cont.	No	NF		R	T	No		E	15.11
2-(2-Aminoethoxy) ethanol	3055	D	S	3	2G	Open	No		Yes	O	No	A, D	N2	No	15.19.6
Aminoethyl ethanolamine	(D)	S	3	2G	Open	No		T2 IIA	Yes	O	No	A	N1	No	
N-Aminoethylpiperazine	2815	D	S	3	2G	Cont.	No		Yes	R	T	A	N2	No	15.19.6
2-Amino-2-methyl-1-propanol (90% or less)		D	S	3	2G	Open	No		Yes	O	No	A	N1	No	
Ammonia aqueous (28% or less)	2672(m)	C	S/P	3	2G	Cont.	No	NF		R	T	A, B, C	N4	E	
Ammonium nitrate solution (93% or less)		D	S	2	1G	Open	No	NF		O	No	No	Y4	(e)	15.2, 15.11.4, 15.11.6, 15.18, 15.19.6
Ammonium sulphide solution (45% or less)	2683	B	S/P	2	2C	Cont.	No		No	C	F-T	A	N1	E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6
Ammonium thiocyanate (25% or less)/Ammonium thiosulphate (20% or less) solution		(C)	P	3	2G	Open	No	NF		O	No	No		No	
Ammonium thiosulphate solution (50% or less)		(C)	P	3	2G	Open	No	NF		O	No	No		No	16.2.9
n-Amyl acetate	1104	C	F	3	2G	Cont.	No		No	R	F	A		No	15.19.6
sec-Amyl acetate	1104	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Amyl acetate, commercial	1104	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Aniline	1547	C	S/P	2	2G	Cont.	No	T1 IIA	Yes	C	T	A		No	15.12, 15.17, 15.19
Aviation alkylates (C8 paraffins and iso-paraffins 8Pt 95 - 120°C)		(C)	P	3	2G	Cont.	No		No	R	F	B		No	15.19.6

a	b	c	d	e	f	g	h	i	i ^m	j	k	l	m	n	o
Benzene and mixtures having 10% benzene or more	1114(t) C	S/P 3	2G	Cont.	No	T1 IIA	No	R F-T	A,B	No	15.12.1, 15.17, 16.2.9				
Benzene sulphonyl chloride	2225	D S 3	2G	Cont.	No	Yes R T	A,D	NI	No	15.19.6					
Benzyl acetate		C P 3	2G	Open	No	Yes O No	A	No	No						
Benzyl alcohol		C P 3	2G	Open	No	Yes O No	A	No	No						
Benzyl chloride	1738	B S/P 2	2G	Cont.	No	T1 IIA	Yes C T	A,B	E	15.12, 15.13, 15.17, 15.19					
Butene oligomer		B P 3	2G	Open	No	Yes O No	A	No	No	15.19.6					
n-Butyl acetate	1123	C P 3	2G	Cont.	No	No R F	A	No	No	15.19.6					
n-Butyl acrylate	2348	B S/P 2	2G	Cont.	No	T2 IIB	No R F-T	A	No	15.13, 15.19.6, 16.6.1, 16.6.2					
Butylamine (all isomers)	1125, 1214	C S/P 2	2G	Cont.	No	No R F-T	A	NI	E	15.12, 15.17, 15.19.6					
Butylbenzenes (all isomers)	2709	(A) P 2	2G	Cont.	No	No R F	A	No	No	15.19.6					
Butyl benzyl phthalate		A P 2	2G	Open	No	Yes O No	A	No	No	15.19.6					
n-Butyl butyrate		(C) P 3	2G	Cont.	No	No R F	A	No	No	15.19.6					
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture		D S 3	2G	Cont.	No	Yes R No	A,D	No	No	15.13, 16.6.1, 16.6.2					
1,2-Butylene oxide	3022	C S/P 3	2G	Cont.	Inert	T2 IIB	No R F	A,C	Z	15.8.1 to .7, .12, .13, .16 to .19, .21, .25, .27, .29, 15.15, 15.19.6					
n-Butyl ether															
Butyl methacrylate	1149	C S/P 3	2G	Cont.	Inert	T4 IIB	No R F-T	A	No	15.4.6, 15.12					
n-Butyraldehyde	1129	D S 3	2G	Cont.	No	IIA	No R F-T	A,D	No	15.13, 16.5.1, 16.6.2					
Butyric acid	2820	D S 3	2G	Cont.	No	T3 IIA	No O F-T	A	No	15.16.1, 15.19.6					
							Yes R No	A	Y1	No	15.11.2 to 15.11.4, 15.11.6 to 15.11.8				
Calcium alkyl salicylate		C P 3	2G	Open	No	Yes O No	A		No	16.2.7, 16.2.B					

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
Calcium hypochlorite solution (15A or less)		C	S/P 3	3	2G	Cont. No		NF		R No	No	No	NS	No	15.16.1
Calcium hypochlorite solution (more than 15A)		B	S/P 3	3	2G	Cont. No		NF		R No	No	No	NS	No	15.16.1, 15.19.6
Calcium naphthenate in mineral oil	1130	A	P	3	2G	Open No			Yes O No		A	No		No	15.19.6
Camphor oil		B	S/P 2	2G	Cont. No			IIA	No O P		A,B	No		No	15.19.6
Carbolic oil		A	S/P 2	2G	Cont. No				Yes C F-T		A	No		No	15.12, 15.19
Carbon disulphide	1131	B	S/P 2	1G	Cont. Pad+Inert T6			IIC	No C F-T		C	E		E	15.3, 15.12, 15.15, 15.19
Carbon tetrachloride	1846	B	S/P 3	2G	Cont. No			NF		C T	No	No	Z	E	15.12, 15.17, 15.19.6
Cashew nut shell oil (untreated)		E	S	3	2G	Cont. No			Yes R T		A,B	No		No	15.13, 16.6.1, 16.6.2
Cetyl/Eicosyl methacrylate mixture		III	S	3	2G	Open No			Yes O No		A,D	No		No	15.19
Chlorinated paraffins (C10-C13)		A	P	1	2G	Open No			Yes O No		A	No		No	15.11.2, 15.11.4, 15.11.6
Chloroacetic acid (80% or less)	1750	C	S/P 2	2G	Cont. No			NF		C No	No	No	Y5	No	to 15.11.8, 15.12.1, 15.19, 16.2.9
Chlorobenzene	1134	B	S/P 2	2G	Cont. No			TI	IIA No	R F-T	A,B	No		No	15.19.6
Chloroform	1888	B	S/P 3	2G	Cont. No			NF		R T	No	E		E	15.12, 15.19.6
Chlorohydrins (crude)		(B)	S	2	2G	Cont. No			IIA No	C F-T	A	No		No	15.12, 15.19
o-Chloronitrobenzene	1578	B	S/P 2	2G	Cont. No				Yes C T		A,B,D	No		No	15.12, 15.17 to 15.19, 16.2.6, 16.2.9, 16A.2.2
2- or 3-Chloropropionic acid	2511(m)	(C)	S/P 3	2G	Open No				Yes O No		A	No	Y1	No	15.11.2 to 15.11.4, 15.11.6 to 15.11.8, 16.2.7 to 16.2.9
Chlorosulphonic acid	1754	C	S/P 1	2G	Cont. No			NF		C T	No	E		E	15.11.2 to 15.11.8, 15.12, 15.16.2, 15.19

d	b	c	d	e	f	g	h	i	i ¹	j	k	l	m	n	o
m-Chlorotoluene	2238	B	S/P	3	2G	Cont.	No		No	R	F-T	A,B		No	15.19.6
o-Chlorotoluene	2238	A	S/P	3	2G	Cont.	No		No	R	F-T	A,B		No	15.19.6
p-Chlorotoluene	2238	B	S/P	2	2G	Cont.	No		No	R	F-T	A,B		No	15.19.6, 16.2.9
Chlorotoluenes (mixed isomers)	2238	A	S/P	2	2G	Cont.	No		No	R	F-T	A,B		No	15.19.6
Coal tar		A	S/P	2 ¹	2G	Cont.	No	T2	IIR	Yes	R	No	B,D	No	15.19.6
Coal tar naphtha solvent		B	S/P	3	2G	Cont.	No	TJ	IIR	No	R	F-T	A,D	No	15.19.6
Coal tar pitch (molten)		D	S	3	1G	Cont.	No	T2	IIR	Yes	R	No	B,D	No	15.19.6
Coconut oil fatty acid		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.7 to 16.2.9
Cresote (coal tar)		A	S/P	2	2G	Open	No		T2	IIR	Yes	O	No	No	15.19.6
Cresote (wood)		A	S/P	2	2G	Open	No		T2	IIR	Yes	O	No	No	15.19.6
Cresols (all isomers)	2076	A	S/P	2	2G	Open	No		T1	IIR	Yes	O	No	No	15.19.6
Cresylic acid, sodium salt solution		A	S/P	2	2G	Open	No		Yes	O	No	A,B		No	15.19.6
Crotonaldehyde	1143	B	S/P	2	2G	Cont.	No	T3	IIR	No	R	F-T	A	NS	15.12, 15.16.1, 15.17, 15.19.6
Cycloheptane	2241	(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Cyclohexane	1145	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6, 16.2.9
Cyclohexanol		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.7, 16.2.9
Cyclohexanone	1915	D	S	3	2G	Cont.	No	T2	IIR	No	R	F-T	A	NS	15.19.6
Cyclohexyl acetate	2243	(B)	P	3	2G	Cont.	No		T2	IIR	No	R	F	A	NS
Cyclohexylamine	2357	C	S/P	3	2G	Cont.	No		T3	IIR	No	R	F-T	A,C	NS
1,7-Cyclopentadiene dimer (molten)		B	P	2	2G	Cont.	No		T3	IIR	No	R	F	A	NS
Cyclopentane	1146	(C)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6, 16.2.6, 16.2.9, 16.2.2
Cyclopentene	2246	(B)	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
p-Cymene	2046	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Decanoic acid		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.7 to 16.2.9

¹ For ships constructed before the date of entry into force of the present amendments which are engaged solely on voyages between ports or terminals within the State the flag of which the ship is entitled to fly, the ship-type requirement applies ten years after entry into force of the amendments.

² For ships constructed before the date of entry into force of the present amendments, which are engaged on voyages from, to or between port terminals within States other than the State the flag of which the ship is entitled to fly, the ship-type requirement applies five years after the entry into force of the amendments, provided that the ship satisfies all the following conditions:

- 1 the ship has been regularly engaged in the trade in that port for at least five years before the date of entry into force of the present amendments;
- 2 the ship is solely engaged on restricted voyages as determined by the Administration;
- 3 the Certificate of Fitness is endorsed to the effect that the ship is solely engaged in such restricted voyages;
- 4 with the expiry date of the period of grace; and
- 5 the five year period of grace is varied among the States concerned.

a	b	c	d	e	f	g	h	i	i ^m	j	k	l	m	n	o
Decene		B	P	3	2G	Cont.	No		No	R	P	A		No	15.19.6
Decyl acrylate		A	S/P	2	2G	Open	No	T3	IIA	Yes	O	No	A,C,D	No	15.13, 15.19.6, 16.6.1, 16.6.2
Decyl alcohol (all isomers)		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.9(s)
Dibutylamine		C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A,C,D	No	15.19.6
Dibutyl phthalate		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
Dichlorobenzenes (all isomers)		B	S/P	2	2G	Cont.	No	T1	IIA	Yes	R	T	A,B,D	No	15.19.6, 16.2.6(x), 16.2.9(y), 16.2.2(z)
1,1-Dichloroethane	2362	B	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	E	15.19.6
Dichloroethyl ether	1916	B	S/P	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	No	15.19.6
2,2-Dichloroisopropyl ether	2490	C	S/P	2	2G	Cont.	No		Yes	R	T	A,C,D		No	15.12, 15.17, 15.19
Dichloromethane	1593	D	S	3	2G	Cont.	No	T1	IIA	Yes	R	T	No	No	
2,4-Dichlorophenol	2021	A	S/P	2	2G	Cont.	Dry		Yes	R	T	A		No	15.19.6
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution		A	S/P	3	2G	Open	No	NF		O	No	No		No	15.19.6
2,4-Dichlorophenoxyacetic acid, diethylamine salt solution (70% or less)		A	S/P	3	2G	Open	No	NF		O	No	No		No	15.19.6
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution		A	S/P	3	2G	Open	No	NF		O	No	No		No	15.19.6
1,2-Dichloropropane	1279	B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B	No	15.12, 15.19.6
1,3-Dichloropropane		B	S/P	2	2G	Cont.	No	T1	IIA	No	R	F-T	A,B	No	15.12, 15.19.6
1,3-Dichloropropane mixtures	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	C	F-T	A,B	E	15.12, 15.17 to 15.19
2,2-Dichloropropionic acid		D	S	3	2G	Cont.	Dry		Yes	R	No	A		E	15.12, 15.17 to 15.19
													Y5	No	15.11.2, 15.11.4, 15.11.6 to 15.11.8

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Diethanolamine	1154	III S	3	2G	Open	No	T1 IIA	Yes	O	No	A	N2	No	15.12
Diethylamine	2686	C	S/P 3	2G	Cont.	No	T2 IIA	No	R	F-T	A	N1	E	
Diethylaminoethanol	2049	C	S/P 3	2G	Cont.	No	T2 IIA	No	R	F-T	A, C	N1	No	15.19.6
Diethylbenzene		C	P 3	2G	Cont.	No		Yes	O	No	A	N2	No	
Diethylens glycol methyl ether	2079	D	S 3	2G	Open	No	T2 IIA	Yes	O	No	A	N7	E	15.4, 15.14, 15.15, 15.19
Diethylenetriamine	1155	III S	2	IG	Cont.	Inert	T4 IIB	No	C	F-T	A	N2	No	
Diethyl ether	1902	C	S/P 3	2G	Open	No		Yes	O	No	A, D	N2	No	
Di-(2-ethylhexyl) phosphoric acid		C	P 1	2G	Open	No		Yes	O	No	A	N3	No	15.19.6
Diethyl phthalate	1594	(B)	S/P 2	2G	Cont.	No		Yes	C	T	A	N3	No	15.19.6, 16.2.6
Diethyl sulphate		B	P 3	2G	Open	No		Yes	O	No	A	N3	No	15.19.6, 16.2.6
Diglycidyl ether of bisphenol A		B	P 3	2G	Open	No		Yes	O	No	A	N3	No	15.19.6, 16.2.6
Diglycidyl ether of bisphenol F		B	P 3	2G	Open	No		Yes	O	No	A	N3	No	15.19.6
Di-n-hexyl adipate	2361	(C)	S/P 2	2G	Cont.	No		No	R	F-T	A, C, D	N1	No	15.12.3, 15.19.6
Dilsecbutylamine	2050	B	P 3	2G	Cont.	No		No	R	F	A	N1	No	15.19.6
Dilsecbutylamine		B	P 3	2G	Open	No		Yes	O	No	A	N2	No	15.19.6, 16.2.6
Dilsecbutyl phthalate		C	S/P 3	2G	Open	No		Yes	O	No	A	N2	No	16.2.7 to 16.2.9
Dilsecpropylamine		C	S/P 2	2G	Cont.	No	T2 IIA	No	C	F-T	A	N2	E	15.12, 15.19
Dilsecpropylamine	1158	A	P 2	2G	Open	No	T2 IIA	No	C	F-T	A	N2	No	15.19.6
Dilsecpropylbenzene (all isomers)		D	S 3	2G	Cont.	No		Yes	R	T	B	N4	No	15.12.1, 15.17
N,N-Dimethylacetamide solution (40% or less)		B	P 3	2G	Open	No		Yes	O	No	A	N4	No	15.19.6, 16.2.9
Dimethyl adipate	1160	C	S/P 3	2G	Cont.	No	T2 IIA	No	R	F-T	A, C, D	N1	E	15.12
Dimethylamine solution (45% or less)	1160	C	S/P 2	2G	Cont.	No		No	C	F-T	A, C, D	N1	E	15.12, 15.17, 15.19
Dimethylamine solution (greater than 45% but not greater than 55%)		C	S/P 2	2G	Cont.	No		No	C	F-T	A, C, D	N1	E	15.12, 15.14, 15.17, 15.19
Dimethylamine solution (greater than 55% but not greater than 65%)	1160	C	S/P 2	2G	Cont.	No		No	C	F-T	A, C, D	N1	E	15.12, 15.14, 15.17, 15.19

a	b	c	d	e	f	g	h	i	i*	j	k	l	m	n	o
N,N-Dimethylcyclohexylamine	2264	C	S/P	2	2G	Cont.	No		No	R	F-T	A,C	N1	No	15.12, 15.17, 15.19.6
Dimethylethanolamine	2051	D	S	3	2G	Cont.	No	T3 IIA	No	R	F-T	A,D	NZ	No	
Dimethylformamide	2265	D	S	3	2G	Cont.	No	T2 IIA	No	R	F-T	A,D		No	
Dimethyl glutarate		C	P	3	2G	Open	No		Yes	O	No	A		No	15.12.1
Dimethyl hydrogen phosphate		(C)	P	3	2G	Cont.	No		Yes	R	T	A,D		No	16.2.8, 16.2.9
Dimethyl octanoic acid		C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.9
Dimethyl phthalate		C	P	3	2G	Open	No		Yes	O	No	A		No	15.12, 15.17, 15.19,
Dimethyl succinate	1600	C	P	3	2G	Open	No		Yes	O	No	A		No	16.2.6, 16.2.9,
Dinitrotoluene (molten)		B	S/P	2	2G	Cont.	No		Yes	C	T	A		No	16A.2.2(p)
1,4-Dioxane	1165	D	S	2	2G	Cont.	No							No	15.12, 15.19
Dipentene	2052	C	P	3	2G	Cont.	No	T2 IIB	No	C	F-T	A		No	15.12, 15.19
Diphenyl		A	P	1	2G	Open	No		No	R	F	A		No	15.19.6
Diphenyl/diphenyl ether mixtures		A	P	1	2G	Open	No		Yes	O	No	B		No	15.19
Diphenyl ether		A	P	1	2G	Open	No		Yes	O	No	B		No	15.19
Diphenyl ether/diphenyl phenyl ether mixture		A	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Diphenylmethane diisocyanate	2489	(B)	S/P	2	2G	Cont.	Dry		Yes	C	T(b)	A,B,	N5	No	15.12, 15.16.2, 15.17,
									(b)			C(c),D		No	15.19.6, 16.2.6, 16.2.9,
														No	16A.2.2
Diphenylol propane-epichlorohydrin resins		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6
Di-n-propylamine	2383	C	S/P	3	2G	Cont.	No		No	R	F-T	A	N2	No	15.12.3, 15.19.6
Dodecane (all isomers)		(B)	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Dodecyl alcohol		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9,
														No	16A.2.2

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
Dodecyl diphenyl ether disulphonate solution		B	S/P 3	2G	Open	No			NF	O	No	No		No	15.19.6, 16.2.6, 16.2.9, 16.2.2
Dodecyl methacrylate		III S	3	2G	Open	No			Yes O	No	A	No		No	15.13
Dodecyl/Pentadecyl methacrylate mixture		III S	3	2G	Open	No			Yes O	No	A, D	No		No	15.13, 16.6.1, 16.6.7
Dodecyl phenol		A	P	1	2G	Open	No		Yes O	No	A	No		No	15.19
Drilling brines, containing Zinc salts		(A)	P	2	2G	Open	No		Yes O	No	No	No		No	15.19.6
Epichlorohydrin	2023	C	S/P 2	2G	Cont.	No			IIB	No	C F-T	A		Z	15.12, 15.17, 15.19
Ethanolamine	2491	D	S	3	2G	Open	No		T2 IIA	Yes	O F-T	A	NZ	No	
2-Ethoxyethyl acetate	1172	C	P	3	2G	Cont.	No			No	R F	A		No	15.19.6
Ethyl acrylate	1917	A	S/P 2	2G	Cont.	No			T2 IIB	No	R F-T	A		E	15.13, 15.19.6, 16.6.1, 16.6.2
Ethylamine	1036	(C)	S/P 2	1G	Cont.	No			T2 IIA	No	C F-T	C, D	N2	E	15.12, 15.14
Ethylamine solutions (72% or less)	2270	(C)	S/P 2	2G	Cont.	No				No	C F-T	A, C	N1	E	15.12, 15.14, 15.17, 15.19
Ethyl amyl ketone	2271	C	P	3	2G	Cont.	No			No	R F	A		No	15.19.6
Ethylbenzene	1175	C	P	3	2G	Cont.	No			No	R F	A		No	15.19.6
N-Ethylbutylamine		(C)	S/P 3	2G	Cont.	No				No	R F-T	A	N1	No	15.12.3, 15.19.6
Ethyl butyrate	1180	C	P	3	2G	Cont.	No			No	R F	A		No	15.19.6
Ethylcyclohexane		(C)	P	3	2G	Cont.	No			No	R F	A		No	15.19.6
N-Ethylcyclohexylamine		D	S	3	2G	Cont.	No			No	R F-T	A	N1	No	15.19.6
Ethylene chlorohydrin	1135	C	S/P 2	2G	Cont.	No			T2 IIA	No	C F-T	A, D		E	15.12, 15.17, 15.19
Ethylene cyanohydrin	1604	(D)	S	3	2G	Open	No		IIB	Yes	O	No		No	16.2.9
Ethylendiamine		C	S/P 2	2G	Cont.	No			T2 IIA	No	R F-T	A	N2	No	
Ethylene dibromide	1605	B	S/P 2	2G	Cont.	No			NF		C T	No		E	15.12, 15.19.6, 16.2.9

a	b	c	d	e	f	g	h	i	i ¹	j	k	l	m	n	o
Ethylene dichloride	1184	B	S/P 2	2G	Cont.	No	T2 IIA	No	R	F-T	A, E	H4	No	15.19	
Ethylene glycol butyl ether acetate		(C)	P 3	2G	Open	No		Yes	O	No	A		No		
Ethylene glycol diacetate		C	P 3	2G	Open	No		Yes	O	No	A		No		
Ethylene oxide/propylene oxide mixture with an Ethylene oxide content of not more than 30% in weight	2983	D	S 2	1G	Cont.	Inert	T2 IIB	No	C	F-T	A, C		No	15.8, 15.12, 15.14, 15.15, 15.19	
2-Ethylhexyl acrylate		B	S/P 3	2G	Open	No	T3 IIB	Yes	O	No	A		No	15.13, 15.19.6, 16.6.1, 16.6.2	
2-Ethylhexylamine	2276	B	S/P 2	2G	Cont.	No		No	R	F-T	A	N2	No	15.12, 15.19.6	
Ethylidene norbornene		B	S/P 3	2G	Cont.	No		No	R	F-T	A, D	N4	No	15.12.1, 15.16.1, 15.19.6	
Ethyl methacrylate	2277	(D)	S 3	2G	Cont.	No	T2 IIA	No	R	F-T	A, D		No	15.13, 16.6.1, 16.6.2	
o-Ethylphenol		(A)	S/P 3	2G	Open	No	T1 IIA	Yes	O	No	B		No	15.19.6	
2-Ethyl-3-propylacrolein		(B)	S/P 3	2G	Cont.	No	IIA	No	R	F-T	A		No	15.19.6, 16.2.9	
Ethyltoluene		(B)	P 3	2G	Cont.	No		No	R	F	A		No	15.19.6	
Ferric chloride solutions	2582	C	S/P 3	2G	Open	No	NF	O	No	No			No	15.11, 15.19.6, 16.2.9	
Ferric nitrate/Nitric acid solution		C	S/P 2	2G	Cont.	No	NF	R	T	No			E	15.11, 15.19	
Formaldehyde solutions (45% or less)	1198(d)	C	S/P 3	2G	Cont.	No	T2 IIB	No	R	F-T	A		E	15.16.1, 16.2.9	
Formic acid	2209												(e)		
	1779	D	S 3	2G	Cont.	No	T1 IIA	No	R	T(v)	A	Y2, Y3	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8	
Fumaric adduct of rosin, water dispersion		B	P 3	2G	Open	No		Yes	O	No	No		No	15.19.6, 16.2.5	
Furfural	1199	C	S/P 3	2G	Cont.	No	T2 IIB	No	R	F-T	A		No	15.16.1	
Furfuryl alcohol	2874	C	P 3	2G	Open	No		Yes	O	No	A		No		
Glutaldehyde solutions (50% or less)		D	S 3	2G	Open	No	NF	O	No	No			No	15.16.1	

a	b	c	d	e	f	g	h	i	i ⁿ	j	k	l	m	n	o
Glycidyl ester of C10 trialkylacetic acid		B	P	3	ZG	Open	No			Yes	O	No	No	15.19.6	
Heptane (all isomers)	1206	(C)	P	3	ZG	Cont.	No			No	R	A	No	15.19.6	
Heptanol (all isomers)(q)		C	P	3	ZG	Cont.	No			No	R	A	No	15.19.6	
Heptene (all isomers)		C	Z	3	ZG	Cont.	No			No	R	A	No	15.19.6	
Heptyl acetate		(B)	P	3	ZG	Open	No			Yes	O	No	No	15.19.6	
Hexamethylenediamine solution	1783	C	S/P	3	ZG	Cont.	No			Yes	R	T	N2	15.19.6, 16.2.9	
Hexamethylenimine	2493	C	S/P	2	ZG	Cont.	No			No	R	F-T	N1		
Hexane (all isomers)	1208	(C)	P	3	ZG	Cont.	No			No	R	F	No	15.19.6	
Hexene (all isomers)		(C)	P	3	ZG	Cont.	No			No	R	F	No	15.19.6	
Hexyl acetate	1233	B	P	3	ZS	Cont.	No			No	R	F	No	15.19.6	
Hydrochloric acid	1789	D	S	3	1G	Cont.	No		NE	R	T	No	E	15.11	
Hydrogen peroxide solutions (over 8% but not over 60%)	2014, 2984	C	S/P	3	ZG	Cont.	No		NE	C	No	No	(f)	15.5.14 to 15.5.26, 15.18, 15.19.6	
Hydrogen peroxide solutions (over 60% but not over 70%)	2015	C	S/P	2	ZG	Cont.	No		NE	C	No	No	No	15.5.1 to 15.5.13, 15.19.6	
2-Hydroxyethyl acrylate		B	S/P	2	ZG	Cont.	No			Yes	C	T	No	15.12, 15.13, 15.19.6, 16.6.1, 16.6.2	
Isamyl acetate	1104	C	P	3	ZG	Cont.	No			No	R	F	No	15.19.6	
Isobutyl acetate	1213	C	P	3	ZG	Cont.	No			No	R	F	No	15.19.6	
Isobutyl acrylate	2527	B	S/P	2	ZG	Cont.	No		TZ	IIB	No	R	F-T	15.13, 15.19.6, 16.6.1, 16.6.2	
Isobutyraldehyde	2045	C	S/P	3	ZG	Cont.	No		T3	IIR	No	O	F-T	15.16.1	
Isophoronediamine	2289	D	S	3	ZG	Cont.	No			Yes	R	T	A	No	
Isophorone diisocyanate	2290	B	S/P	2	ZG	Cont.	Dry			Yes	C	T	A,B,D	15.12, 15.16.2, 15.17, 15.19.6	

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
isoprene	1218	C	S/P	3	2G	Cent. No		T3 IIB	No	R F	B		No	15.13, 15.14, 16.6.1, 16.6.2
Isopropanolamine		C	S/P	3	2G	Open No		T2 IIA	Yes	D F-T	A	N2	No	16.2.8, 16.2.9
Isopropylamine	1221	C	S/P	2	2G	Cont. No		T2 IIA	No	C F-T	C,D	N2	E	15.12, 15.13, 15.19
Isopropylbenzene	1918	B	P	3	2G	Cont. No			No	R F	A		No	15.19.6
Isopropylcyclohexane	1159	(C)	P	3	2G	Cont. No			No	R F	A		No	15.19.6, 16.2.7, 16.2.8
Isopropyl ether	2058	D	S	3	2G	Cont. Inert			No	R F	A		No	15.4.6, 15.13.3, 15.19.6
Isovaleraldehyde		C	S/P	3	2G	Cont. Inert		T3 IIB	No	R F-T	A		No	15.4.6, 15.16.1
Lactonitrile solution (50% or less)		B	S/P	2	1G	Cont. No			Yes	C T	A,C,D	Y1	E	15.1, 15.12, 15.17 to 15.19, 16.2.6, 16.6
Lauric acid		B	P	3	2G	Open No			Yes	O No	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Maleic anhydride	2215	D	S	3	2G	Cont. No			Yes	R No	A(9),C	N1	No	15.19.6, 16.2.9
Mercaptobenzothiazol, sodium salt solution		B	S/P	3	2G	Open No		HF	O	No	No		No	
Mesityl oxide	1229	D	S	3	2G	Cont. No		T2 IIB	No	R F-T	A		No	15.19.6
Metam sodium solution		A	S/P	3	2G	Open No		NF	O	No	No	N1	No	15.19.6
Methacrylic acid	2531	D	S	3	2G	Cont. No			Yes	R T	A	Y1	No	15.13, 16.6.1
Methacrylonitrile	1079	(B)	S/P	2	2G	Cent. No			No	C F-T	A	M4,Z	E	15.12, 15.13, 15.17, 15.19
Methyl acrylate	1919	B	S/P	2	2G	Cent. No		T1 IIB	No	R F-T	A		E	15.13, 15.19.6, 16.6.1, 16.6.2
Methylamine solutions (4% or less)	1235	C	S/P	2	2G	Cent. No			No	C F-T	A,C,D	N1	E	15.12, 15.17, 15.19
Methylamyl acetate	1233	(C)	P	3	2G	Cent. No			No	R F	A		No	15.19.6
Methylamyl alcohol	2053	(C)	P	3	2G	Cent. No			No	R F	A		No	15.19.6
Methyl amyl ketone	1110	(C)	P	3	2G	Cent. No			No	R F	A		No	15.19.6
Methyl butyrate	1237	(C)	P	3	2G	Cent. No			No	R F	A		No	15.19.6

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
Methylcyclohexane	2296	(C) P	3	2G	Cont.	No			No	R	F	A		No	15.19.6
Methylcyclopentadiene dimer		(B) P	3	2G	Cont.	No			No	R	F	E		No	15.19.6
2-Methyl-6-ethyl aniline	2300	C	S/P	3	2G	Open	No		Yes	O	No	A,D		No	
2-Methyl-5-ethyl pyridine	1243	(B) S	P	3	2G	Open	No		IIA	Yes	O	No	N4	No	15.19.6
Methyl formate		D	S	2	2G	Cont.	No		No	R	F-T	A		E	15.12, 15.14, 15.19
Methyl heptyl ketone		E	P	3	2G	Cont.	No		No	R	P	A		No	15.19.6
2-Methyl-2-hydroxy-3-butyne	1247	III	S	3	2G	Cont.	No		IIA	No	R	F-T	A,B,D	No	15.19.6
Methyl methacrylate		D	S	2	2G	Cont.	No	T2	IIA	No	R	F-T	A	No	15.13, 16.6.1, 16.6.2
2-Methyl-1-pentene	2288	C	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
2-Methylpyridine	2313	B	S/P	2	2G	Cont.	No		No	C	F	A	N4	No	15.12.3, 15.19.6
4-Methylpyridine	7313	B	S/P	2	2G	Cont.	No		No	C	F-T	A	N4	No	15.12.3, 15.19, 16.2.9
N-Methyl-2-pyrrolidone		E	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Methyl salicylate	2303	(B) P	3	2G	Open	No			Yes	O	No	A		No	15.19.6
alpha-Methylstyrene		A	S/P	3	2G	Cont.	No	T1	IIB	No	R	F-T	D	No	15.13, 15.19.6, 16.6.1, 16.6.2
Morpholine	2054	D	S	3	2G	Cont.	No					A	N2,Z	No	
Motor fuel anti-knock compounds	1649	A	S/P	2	IG	Cont.	No	T2	IIA	No	R	F	A	E	15.6, 15.12, 15.18, 15.19
Naphthalene (molten)	2304	A	S/P	2	2G	Cont.	No	T4	IIA	No	C	F-T	A,C	No	15.19.6
Naphthenic acids		A	P	2	2G	Open	No	T1	IIA	Yes	R	No	A,D	No	15.19.6
Neodecanoic acid		C	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6
Nitrating acid (mixture of sulphuric and nitric acids)	1796	(C) S/P	2	2G	Cont.	No		NF		C	T	No		E	15.11, 15.16.2, 15.17, 15.19
Nitric acid (less than 70%)	2031	C	S/P	2	2G	Cont.	No		NF		R	T	No	E	15.11, 15.19
Nitric acid (70% and over)	2031, 2032(h)	C	S/P	2	2G	Cont.	No		NF		C	T	No	E	15.11, 15.19
Nitrobenzene	1662	B	S/P	2	2G	Cont.	No	T1	IIA	Yes	C	T	A,D	No	15.12, 15.17 to 15.19, 16.2.9

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
o-Nitrophenol (molten)	1663	B	S/P	2	2G	Cont.	No		Yes	C	T	A, D		No	15.12, 15.19.5, 16.2.6, 16.2.9, 16A.2.2
1- or 2-Nitropropane	2608	D	S	3	2G	Cont.	No	T2	IIB	No	R	F-T	A	No	
Nitropropane (50%)/Nitroethane (40%) mixture		D	S	3	2G	Cont.	No			No	R	F-T	A(u)	No	
o- or p-Nitrotoluenes	1664	C	S/P	2	2G	Cont.	No	IIB	Yes	C	T	A, B		No	15.12, 15.17, 15.19, 16.2.9
Nonane (all isomers)	1920	(C)	P	3	2G	Cont.	No		No	R	F	B, C		No	15.19.6
Nonane		B	P	3	2G	Cont.	No		No	R	F	A		No	15.19.6
Nonyl alcohol (all isomers)		C	P	3	2G	Open	No		Yes	O	No	A		No	
Nonylphenol		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
Nonyl phenol poly(4-12) ethoxylates		B	P	3	2G	Open	No		Yes	O	No	A		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2(ae)
Noxious liquid, N.F. (1) n.o.s. (trade name ..., contains ...) S.T.1, Cat.A*		A	P	1	2G	Open	No		Yes	O	No	A		No	15.19
Noxious liquid, F, (2) n.o.s. (trade name ..., contains ...) S.T.1, Cat.A*		A	P	1	2G	Cont.	No		No	R	F	A		No	15.19
Noxious liquid, N.F. (3) n.o.s. (trade name ..., contains ...) S.T.2, Cat.A*		A	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6
Noxious liquid, F, (4) n.o.s. (trade name ..., contains ...) S.T.2, Cat.A*		A	P	2	2G	Cont.	No		No	R	F	A		No	15.19.6
Noxious liquid, N.F. (5) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*		B	P	2	2G	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6, 16.2.9]**

* In case of a specific n.o.s. cargo assessed as falling within this n.o.s. group that is carried on a ship, this entry, including the cargo's trade name and one or two principal components, should be provided in the shipping document. Abbreviations used mean:

N.F.: Flashpoint exceeding 60°C (closed cup test) S.T.: Ship type
 F: Flashpoint not exceeding 60°C (closed cup test) Cat.: Pollution category
 n.o.s.: Not otherwise specified M.D.: Melting point

** For high viscosity or high melting point cargoes.

a	b	c	d	e	f	g	h	i	i ¹	j	k	l	m	n	o
Noxious liquid, N.F., (6) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*, mp 15°C+	B	P	2	ZG	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2	
Noxious liquid, F, (7) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*	B	P	2	ZG	Cont.	No		No	R	F	A		No	15.19.6, [16.2.6], 16.2.9]**	
Noxious liquid, F, (8) n.o.s. (trade name ..., contains ...) S.T.2, Cat.B*, mp 15°C+	B	P	2	ZG	Cont.	No		No	R	F	A		No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2	
Noxious liquid, N.F., (9) n.o.s. (trade name ..., contains ...) S.T.3, Cat.A*	A	P	3	ZG	Open	No		Yes	O	No	A		No	15.19.6	
Noxious liquid, F, (10) n.o.s. (trade name ..., contains ...) S.T.3, Cat.A*	A	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6	
Noxious liquid, N.F., (11) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*	B	P	3	ZG	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6]**, 16.2.9]**	
Noxious liquid, N.F., (12) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*, mp 15°C+	B	P	3	ZG	Open	No		Yes	O	No	A		No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2	
Noxious liquid, F, (13) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*	B	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6, [16.2.6], 16.2.9]**	
Noxious liquid, F, (14) n.o.s. (trade name ..., contains ...) S.T.3, Cat.B*, mp 15°C+	B	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6, [16.2.6]**, 16.2.9, 16A.2.2	

* See footnote on page 18.

** For high viscosity or high melting point cargoes.

a	b	c	d	e	f	g	h	i	i*	j	k	l	m	n	o
Noxious liquid, N.P., (15) n.o.s. {trade name ..., contains ...} S.F.3, Cat.C*		C	P	3	ZG	Open	No		Yes	O	No	A		No	[16.2.7 to 16.2.9]**
Noxious liquid, F, (16) n.o.s. {trade name ..., contains ...} S.T.3, Cat.C*		C	P	3	ZG	Cont.	No		No	R	F	A		No	[16.2.7 to 16.2.9]**
Octane (all isomers)	1262	(C)	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6
Octanol (all isomers)		C	P	3	ZG	Open	No		Yes	O	No	A		No	
Octene (all isomers)		B	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6
Octyl aldehydes	1191	(B)	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6, 16.2.9
Octyl nitrates (all isomers)		A	S/P	2	ZG	Open	No		Yes	O	No	A,B		No	15.19.6, 15.20, 16.6
Olefin mixtures (C5-C7)		C	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6
Olefin mixtures (C5-C15)		B	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6, 16.2.6, 16.2.9
alpha-Olefins (C6-C18) mixtures		B	P	3	ZG	Cont.	No		No	R	F	A		No	15.11.2 to 15.11.8,
Oilsum	1831	C	S/P	2	ZG	Cont.	No		NF	C	T	No		Y	15.12.1, 15.16.2, 15.17, 15.19, 16.2.7, 16.2.8
Palm nut oil fatty acid		(C)	P	3	ZG	Open	No		Yes	O	No	A,B		No	16.2.7 to 16.2.9
Paraldehyde	1264	C	S/P	3	ZG	Cont.	No		13	IIB	No	R	F	No	16.2.9
Pentachloroethane	1669	B	S/P	2	ZG	Cont.	No		NF	R	T	No		No	15.12, 15.17, 15.19.6
1,3-Pentadiene		C	S/P	3	ZG	Cont.	No		No	R	F	A,B		No	15.13, 16.6
Pentane (all isomers)	1265	(C)	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6
Pentene (all isomers)		C	P	3	ZG	Cont.	No		No	R	F	A		No	15.19.6
Perchloroethylene	1897	B	S/P	3	ZG	Cont.	No		NF	R	T	No		No	15.12.1, 15.12.2, 15.19.6
Phenol	2312	B	S/P	2	ZG	Cont.	No		T1	IIA	Yes	C	T	No	15.12, 15.19, 16.2.6, 16.2.9, 16A.2.2

* See footnote on page 18.

** For high viscosity or high melting point cargoes.

a	b	c	d	e	f	g	h	i	i'	j	k	l	m	n	o
1-Phenyl-1-xylyl ethane	1805	C P J	S J	J	2G	Open	No	NF	Yes	O	No	A, B	No	No	15.11.1 to 15.11.4, 15.11.6 to 15.11.8
Phosphoric acid	1381, 2447	A	S/P 1	1	1G	Cont.	Padt(Vent or Inert)		No	C	No	C	E	No	15.7, 15.19
Phosphorus, yellow or white	2214	C	S/P 1	1	2G	Cont.	No	T1 IIA	Yes	R	No	A, D	No	No	16.2.7 to 16.2.9
Phthalic anhydride (molten)	2368	B	P 3	3	2G	Cont.	No	No	R	F	A	A	No	No	15.19.6
Pinene	2734(i)	(C)	S/P 3	3	2G	Open	No	Yes	O	No	A	A	N2	No	16.2.9
Polyethylene polyamines	2735	(C)	S/P 3	3	2G	Open	No	NF	O	No	No	No	Y4	No	
<Polyferric sulphate solution	2205(i)	D	S	2	2G	Cont.	Dry	Yes	C	T(b)	A	A	N5	No	15.12, 15.16.2, 15.19.6
Polymethylene polyphenyl isocyanate	2207							(b)							
Potassium hydroxide solution	1814	C	S/P 3	3	2G	Open	No	NF	O	No	No	No	N8	No	16.2.9
n-Propiolactone		C	S/P 3	3	2G	Open	No	Yes	O	No	A, D	A, D	N2	No	16.2.9
Beta-Propiolactone	1275	D	S	2	2G	Cont.	No	IIA	Yes	R	T	A	No	No	15.16.1, 15.17
Propionaldehyde		D	S	3	2G	Cont.	No	No	R	F	T	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Propionic acid	1848	D	S	3	2G	Cont.	No	T1 IIA	No	R	F	A	Y1	E	15.11.2 to 15.11.4, 15.11.6 to 15.11.8
Propionic anhydride	2496	C	S/P 3	3	2G	Cont.	No	T2 IIA	Yes	R	T	A	Y1	No	15.12, 15.17 to 15.19
Propionitrile	2404	C	S/P 2	2	1G	Cont.	No	T1 IIB	No	C	F	T	N2	E	15.12, 15.19
n-Propylamine	1277	(C)	P 3	3	2G	Cont.	Inert	T2 IIA	No	C	F	T	A, D	E	15.12, 15.19
n-Propylbenzene		(C)	P 3	3	2G	Cont.	No	Yes	R	F	A	A	No	No	15.19.6
Propylene dimer		(C)	P 3	3	2G	Cont.	No	No	R	F	A	A	No	No	15.19.6
Propylene linear	1280	D	S	2	2G	Cont.	Inert	T2 IIB	No	C	F	T	Z	No	15.8, 15.12.1, 15.14, 15.15, 15.19
Propylene oxide															
Propylene tetramer	2850	B	P 3	3	2G	Cont.	No	No	R	F	A	A	No	No	15.19.6

a	b	c	d	e	f	g	h	i	i ^o	j	k	l	m	n	o
Propylene trimer	2057	B	P	3	2G	Cont. No	No	R F	No	R F	No	No	No	No	15.19.6
Pyridine	1282	D	S	3	2G	Cont. No	TI IIA	No R F	No	R F	No	No	N4	No	15.19.6
Rosin		B	P	3	2G	Open No		Yes O No	Yes O No	No	No	No		No	15.19.6, 16.2.6, 16.2.9, 16A.2.2
Rosin soap (disproportionated) solution		B	P	3	2G	Open No		Yes O No	Yes O No	A	A	No		No	15.19.6
Sodium borohydride (15% or less)/Sodium hydroxide solution		C	S/P	3	2G	Open No	NF	O No	O No	No	No	N1		No	16.2.7
Sodium chlorate solution (50% or less)	2428	III S	J	2G	Open No		NF	O No	O No	No	No			No	15.9, 15.16.1, 15.19.6
Sodium dichromate solution (70% or less)		C	S/P	2	2G	Open No	NF	C No	C No	No	No	N2		No	15.12.3, 15.19
Sodium hydrogen sulphite solution (35% or less)	2693	D	S	3	2G	Open No	NF	O No	O No	No	No			No	
Sodium hydrosulphide solution (45% or less)	2949	B	S/P	3	2G	Cont. Vent or Pad(gas)	NF	R T	R T	No	No			No	15.16.1, 15.19.6, 16.2.9
Sodium hydrosulphide/ammonium sulphide solution		B	S/P	2	2G	Cont. No		No C F-T	No C F-T	A	A	N1		E	15.12, 15.14, 15.16.1, 15.17, 15.19, 16.6
Sodium hydroxide solution	1824	D	S	3	2G	Open No	NF	O No	O No	No	No	N8		No	
Sodium hypochlorite solution (15% or less)	1791	C	S/P	3	2G	Cont. No		Yes R No	Yes R No	No	No	N5		No	15.16.1
Sodium nitrite solution	1500	B	S/P	2	2G	Open No	NF	O No	O No	No	No			No	15.12.3-1, 15.12.3.2, 15.16.1, 15.19
Sodium thiocyanate solution (56% or less)	2055	(B) B	P	3	2E	Open No		Yes O No	Yes O No	No	No			No	15.19.6
Styrene monomer		B	S/P	3	2E	Cont. No	TI IIA	No O F	TI IIA	No O F	A,B	N4,2		No	15.13, 15.19.6, 16.6.1, 16.6.2

a	b	c	d	e	f	g	h	i	i ^v	j	k	l	m	n	o
Sulphur (molten)	2448	III S	3	1G	Open	Vent or Pad(gas)	Yes O F-T (L)	No					No		15.10
Sulphuric acid	1830	C	S/P 3	2G	Open	No	NF	O No	No				No		15.11, 15.16.2, 16.2.8, 16.2.9
Sulphuric acid, spent	1832	C	S/P 3	2G	Open	No	NF	O No	No				No		15.11, 15.16.2, 16.2.8, 16.2.9
Tall oil (crude and distilled)		B	P 3	2G	Open	No		Yes O No	A				No		15.19.6, 16.2.6, 16.2.9, 16A.2.2
Tall oil fatty acid (resin acids less than 20%)		(C)	P 3	2G	Open	No		Yes O No	A				No		16.2.7 to 16.2.9
Tall oil soap (disproportionated) solution		B	P 3	2G	Open	No		Yes O No	A				No		15.19.6, 16.2.6, 16.2.9
Tetrachlorethane	1702	B	S/P 3	2G	Cont.	No	NF	R T	No				No		15.12, 15.17, 15.19.6
Tetrachlorethane pentamine	2320	D	S 3	2G	Open	No		Yes O No	A				No		15.12, 15.17, 15.19.6
Tetrahydrofuran	2056	D	S 3	2G	Cont.	No	T3 IIB	No R F-T	A				No		
Tetrahydronaphthalene		C	P 3	2G	Open	No		Yes O No	A				No		
1,2,3,5-Tetramethylbenzene		(C)	P 3	2G	Open	No		Yes O No	A				No		
Toluene	1294	C	P 3	2G	Cont.	No		No R F	A				No		15.19.6
Toluenediamine	1709	C	S/P 2	2G	Cont.	No		Yes C T	A, D				No		15.12, 15.17, 15.19, 16.2.7, 16.2.9
Toluene diisocyanate	2078	C	S/P 2	2G	Cont.	Dry	T3 IIA	Yes C F-T	A, C(c), D				E		15.12, 15.15.2, 15.17, 15.19, 16.2.9
o-Toluidine	1708	C	S/P 2	2G	Cont.	No		Yes C T	A				No		15.12, 15.17, 15.19
Tributyl phosphate		B	P 3	2G	Open	No		Yes O No	A				No		15.19.6
1,2,4-Trichlorobenzene	2321	B	S/P 2	2G	Cont.	No		Yes R T	A, B				No		15.19.6, 16.2.9, 16A.2.2
1,1,1-Trichloroethane	2831	B	P 3	2G	Open	No		Yes O No	A				No		15.19.6

a	b	c	d	e	f	g	h	i	i"	j	k	l	m	n	d
1,1,2-Trichloroethane	1716	B	S/P 3	3	2G	Cont.	No	NF	R T	No	No	No	No	No	15.12.1, 15.19.6
Trichloroethylene		B	S/P 3	3	2G	Cont.	No	T2 IIA	Yes R T	No	No	No	No	No	15.12, 15.16.1, 15.17, 15.19.6
1,2,3-Trichloropropane		B	S/P 2	2G	Cont.	No		NF	Yes C T	A,B,D	No	No	No	No	15.12, 15.17, 15.19
1,1,2-Trichloro-1,2,2-Trifluoroethane		C	P 3	2G	Open	No		NF	O No	No	No	No	No	No	
Tricresyl phosphate (containing less than 1% ortho-isomer)		A	P 2	2G	Open	No			Yes O No	A	No	No	No	No	15.19.6
Tricresyl phosphate (containing 1% or more ortho-isomer)	2574(j)	A	S/P 1	2G	Cont.	No		T2 IIA	Yes C No	A,B	No	No	No	No	15.12.3, 15.19
Triethanolamine		D	S 3	2G	Open	No		IDA	Yes O No	A	No	No	N1	No	
Triethylamine	1296	C	S/P 2	2G	Cont.	No		T2 IIA	No R F-T	A,C	No	No	N2	E	15.12
Triethylbenzene		A	P 2	2G	Open	No			Yes O No	A	No	No	No	No	15.19.6
Triethylenetetramine	2259	D	S 3	2G	Open	No		T2 IIA	Yes O No	A	No	No	N1	No	
Triethyl phosphite	2323	S	S 3	2G	Cont.	No			No R F-T	A,B	No	No	Y1	No	15.12.1
Trimethylacetic acid		D	S 3	2G	Cont.	No			Yes R F	A	No	No	No	No	15.11.2 to 15.11.8
Trimethyl benzenes (all isomers)		B	P 3	2G	Cont.	No			No R F	A	No	No	No	No	15.19.6
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-isomers)	2327	D	S 3	2G	Open	No			Yes O No	A,C	No	No	N1	No	15.19.6
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	2328	B	S/P 2	2G	Cont.	Dry			Yes C T	A,C(c)	No	No	No	No	15.12, 15.16.2, 15.17, 15.19.6
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate		C	P 3	2G	Open	No			Yes O No	A	No	No	No	No	
Trimethyl phosphite	2329	S	S 3	2G	Cont.	No			No R F-T	A,D	No	No	No	No	15.12.1, 15.16.2, 15.19.6
Trixylyl phosphate		A	P 1	2G	Open	No			Yes O No	A	No	No	No	No	15.19
Turpentine	1299	B	P 3	2G	Cont.	No			No R F	A	No	No	No	No	15.19.6
Undecanoic acid		(C) P	P 3	2G	Open	No			Yes O No	A	No	No	No	No	16.2.7 to 16.2.9

a	b	c	d	e	f	g	h	i	i''	i'''	j	k	l	m	n	o	
1-Undecene	B	P	3	2G	Open	No		Yes	O	No	A		No			15.19.6	
Undecyl alcohol	B	P	3	2G	Open	No		Yes	O	No	A		No			16.2.9, 16A.2.2(c)	
Urea/ammonium nitrate solution (containing aqua ammonia)	C	S/P	3	2G	Cont.	No		HF			R	T	A	N4		No	
n-Valeraldehyde	2350	D	S	3	2G	Cont.	Inert	T3	IIA	No	R	F-T	A			No	15.4.6, 15.16.1
Vinyl acetate	1101	C	S/P	3	2G	Cont.	No	T2	IIA	No	O	F	A			No	15.13, 16.6.1, 16.6.2
Vinyl ethyl ether	1102	C	S/P	2	1G	Cont.	Inert	T3	IIA	No	C	F-T	A	N6		E	15.4, 15.13, 15.14, 15.19, 16.6.1, 16.6.2
Vinylidene chloride	1103	B	S/P	2	2G	Cont.	Inert	T2	IIA	No	R	F-T	B	N5		E	15.13, 15.14, 15.19.6, 16.6.1, 16.6.2
Vinyl neodecanoate		B	S/P	3	2G	Open	No		Yes	O	No	A,B				No	15.13, 15.16.1, 15.19.6 16.6.1, 16.6.2
Vinyltoluene	2318	A	S/P	3	2G	Cont.	No	IIA	No	R	F	A,B	N1			No	15.13, 15.19.6, 16.6.1, 16.6.2
White spirit, low (15-20% aromatic)	1100	(D)	P	2	2G	Cont.	No		No	R	F	A				No	15.19.6
Xylenes	1107	C	P	3	2G	Cont.	No		No	R	F	A				No	15.19.6, 16.2.9(w)
Xylenol	2161	B	S/P	3	2G	Open	No	IIA	Yes	O	No	A,B				No	15.19.6, 16.2.9, 16A.2.

Footnotes for the IBC Code

- a Applies to Ammonia aqueous, (28% or less) but not below 10%.
Ammonia aqueous (28% or less)
- b If the product to be carried contains flammable solvents such that the flashpoint does not exceed 60°C c.c., then special electrical systems and the flammable vapour detector should be provided.
Diphenyl methane diisocyanate
Polymethylene polyphenyl isocyanate
- c Although water is suitable for extinguishing open air fires involving chemicals to which this footnote applies, water should not be allowed to contaminate closed tanks containing these chemicals because of the risk of hazardous gas generation.
Diphenylmethane diisocyanate
Toluene diisocyanate
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)
- d UN No.1198 only applies if flashpoint is below 60°C c.c.
Formaldehyde solutions (45% or less)
- e Applies to Formaldehyde solutions (45% or less), but not below 5%.
Formaldehyde solutions (45% or less)
- f Applies to Hydrochloric acid not below 10%.
Aluminium chloride (30% or less)/Hydrochloric acid (20% or less) solution
Hydrochloric acid
- g Dry chemical cannot be used because of the possibility of an explosion.
Maleic anhydride
- h UN No.2032 assigned to red fuming nitric acid.
Nitric acid (70% and over)
- i UN number depends on boiling point of substance.
Polyethylene polyamines
Polymethylene polyphenyl isocyanate

- j UN number assigned to this substance containing more than 3% of ortho-isomer.
Tricresyl phosphate (containing 1% or more ortho-isomer)
- k Phosphorus (yellow or white) is carried above its autoignition temperature and therefore flashpoint is not appropriate. Electrical equipment requirements may be similar to those for substances with a flashpoint above 60°C c.c.
Phosphorus (yellow or white)
- l Sulphur (molten) has a flashpoint above 60°C c.c., however, electrical equipment should be certified safe for gases evolved.
Sulphur (molten)
- m UN No.2672 refers to 10-35% ammonia solutions.
Ammonia aqueous (28% or less)
- n UN No.2511 applies to 2-Chloropropionic acid only.
2- or 3-Chloropropionic acid
- o Dinitrotoluene should not be carried in deck tanks.
Dinitrotoluene (molten)
- p Temperature sensors should be used to monitor the cargo pump temperature to detect overheating due to pump failure.
Dinitrotoluene (molten)
- q Requirements are based on those isomers having a flashpoint of 60°C c.c. or less; some isomers have a flashpoint greater than 60°C c.c., and therefore the requirements based on flammability would not apply to such isomers.
Heptanol (all isomers)
- r Reference 16A.2.2 applies to 1-Undecyl alcohol only.
Undecyl alcohol
- s Applies to n-Decyl alcohol only.
Decyl alcohol (all isomers)
- t UN No.1114 applies to Benzene.
Benzene and mixtures having 10% benzene or more

- u Dry chemicals should not be used as a fire-extinguishing media.
Nitropropane (60%)/Nitroethane (40%) mixture
- v Confined spaces should be tested for both Formic acid vapours and Carbon monoxide gas, a decomposition product.
Formic acid
- w Applies to p-Xylene only.
Xylenes
- x Applies to p-isomer and mixtures containing p-isomer viscosity of which is 25 mPa.s at 20°C.
Dichlorobenzenes (all isomers)
- y Applies to p-isomer and mixtures containing p-isomer melting point of which is 0°C and above.
Dichlorobenzenes (all isomers)
- z Applies to p-isomer and mixtures containing p-isomer melting point of which is 15°C and above.
Dichlorobenzenes (all isomers)
- aa Applies only to products with melting point of 15°C and above.
Nonyl phenol poly(4-12)ethoxylates

10 Chapter 18 of the IBC Code is replaced by the following:

"CHAPTER 18 - LIST OF CHEMICALS TO WHICH THE CODE DOES NOT APPLY

1 The following are products which are not considered to come within the scope of the Code. This list may be used as a guide in considering bulk carriage of products whose hazards have not yet been evaluated.

2 Although the products listed in this chapter fall outside the scope of the Code, the attention of Administrations is drawn to the fact that some safety precautions may be needed for their safe transportation. Accordingly, Administrations should prescribe appropriate safety requirements.

EXPLANATORY NOTES

Product name (column a)	In some cases, the product names may not be identical with the names given in previous issues of the IBC Code or the BCH Code (for explanation see index of chemicals).
UN number (column b)	The number relating to each product shown in the recommendations proposed by the United Nations Committee of Experts on the Transport of Dangerous Goods. UN numbers, where available, are given for information only.
Pollution category (column c)	The letter D means the pollution category assigned to each product under Annex II of MARPOL 73/78. "III" means the product was evaluated and found to fall outside the categories A, B, C or D.

Pollution category in brackets indicates that the product is provisionally categorized and that further data are necessary to complete the evaluation of their pollution hazards. Until the hazard evaluation is completed, the pollution category assigned is used.

a	b	c
Product name	UN number	Pollution Category for operational discharge (regulation 3 of Annex II)
Acetone	1090	III
Alcohols (C ₁₃ and above)	-	III
Alcoholic beverages, n.o.s.	3065	III
Alkyl (C ₉ -C ₁₇) benzenes	-	(D)
Aluminium sulphate solution	-	D
Aminoethyldiethanolamine/ Aminoethylethanolamine solution	-	III
2-Amino-2-hydroxymethyl- 1,3-propanediol solution (40% or less)	-	III
Ammonium sulphate solution	-	D
n-Amyl alcohol	1105	D
sec-Amyl alcohol	1105	D

a	b	c
tert-Amyl alcohol	1105	III
Amyl alcohol, primary	1105	D
Animal and fish oils, n.o.s. including: Cod liver oil Sperm oil	-	D
Apple juice	-	III
Behenyl alcohol		III
Benzene tricarboxylic acid, trioctyl ester	-	III
Brake fluid base mix: (Poly (2-8) alkylene (C ₂ -C ₃) glycols/ Polyalkylene (C ₂ -C ₁₀) glycols monoalkyl (C ₁ -C ₄) ethers and their borate esters) ^{1/}	-	D
sec-Butyl acetate	1123	D
n-Butyl alcohol	1120	III
sec-Butyl alcohol	1120	III
tert-Butyl alcohol	1120	III
Butylene glycol	-	D
Butyl stearate	-	III

^{1/} Use "Brake fluid base mix" as a proper name on the shipping document.

a	b	c
gamma-Butyrolactone	-	D
Calcium carbonate slurry	-	III
Calcium hydroxide slurry	-	D
Calcium nitrate/Magnesium nitrate/ Potassium chloride solution		III
epsilon-Caprolactam (molten or aqueous solutions)	-	D
Cetyl/Stearyl alcohol		III
Chlorinated paraffins (C ₁₄ -C ₁₇) (with 52% chlorine)		III
Choline chloride solutions	-	D
Clay slurry		III
Coal slurry		III
Coconut oil fatty acid methyl ester		D
Decahydronaphthalene	1147	(D)
Decylbenzene	-	D
Dextrose solution	-	III

a	b	c
Diacetone alcohol	1148	D
Dialkyl(C ₇ -C ₁₃) phthalates	-	D
Diethylene glycol	-	III
Diethylene glycol butyl ether	-	III
Diethylene glycol butyl ether acetate	-	(D)
Diethylene glycol dibutyl ether	-	D
Diethylene glycol diethyl ether	-	III
Diethylene glycol ethyl ether	-	III
Diethylene glycol ethyl ether acetate	-	(D)
Diethylene glycol methyl ether acetate	-	(D)
Diethylenetriamine pentaacetic acid, pentasodium salt solution	-	III
Di-(2-ethylhexyl) adipate	-	D
Diheptyl phthalate	-	III

a	b	c
Dihexyl phthalate	-	III
1,4-Dihydro-9,10-dihydroxy anthracene, disodium salt solution	-	D
Diisobutyl ketone	1157	D
Diisodecyl phthalate	-	D
Diisononyl adipate	-	D
Diisooctyl phthalate	-	III
Diisopropyl naphthalene	-	D
2,2-Dimethylpropane-1,3-diol	-	(D)
Dinonyl phthalate	-	D
Diocetyl phthalate	-	III
Dipropylene glycol	-	III
Dipropylene glycol methyl ether	-	(D)
Ditridecyl phthalate	-	D
Diundecyl phthalate	-	D
Dodecane (all isomers)	-	III

a	b	c
Dodeceny succinic acid, dipotassium salt solution	-	(D)
Dodecyl benzene	-	III
Drilling brines: Calcium bromide solution Calcium chloride solution Sodium chloride solution	-	III
2-Ethoxyethanol	1171	D
Ethyl acetate	1173	D
Ethyl acetoacetate	-	(D)
Ethyl alcohol	1170	III
Ethylene carbonate	-	III
Ethylenediamine tetraacetic acid, tetrasodium salt solution	-	D
Ethylene glycol	-	D
Ethylene glycol acetate	-	(D)
Ethylene glycol butyl ether	2369	III
Ethylene glycol tert-butyl ether	-	III
Ethylene glycol isopropyl ether	-	D
Ethylene glycol methyl butyl ether	-	D

a	b	c
Ethylene glycol methyl ether	1188	D
Ethylene glycol methyl ether acetate	1189	D
Ethylene glycol phenyl ether	-	D
Ethylene glycol phenyl ether/ Diethylene glycol phenyl ether mixture	-	D
Ethylene-vinyl acetate copolymer (emulsion)	-	III
2-Ethylhexanoic acid	-	D
Ethyl propionate	1195	D
Fatty acid (saturated C ₁₃ and above)	-	III
Ferric hydroxyethylene diamine triacetic acid, trisodium salt solution	-	D
Formamide	-	D
Glucose solution	-	III
Glycerine	-	III
Glycerol polyalkoxylate	-	III

a	b	c
Glyceryl triacetate	-	(III)
Glycine, sodium salt solution	-	III
Glyoxal solution (40% or less)	-	D
n-Heptanoic acid	-	D
Hexamethylenediamine adipate (50% in water)	-	D
Hexamethylene glycol	-	III
Hexamethylenetetramine solutions	-	D
Hexanoic acid	-	D
Hexanol	2282	D
Hexylene glycol	-	III
N-(Hydroxyethyl) ethylenediamine triacetic acid, trisodium salt solution	-	D
Isoamyl alcohol	1105	D
Isobutyl alcohol	1212	III
Isobutyl formate	2393	D
Isophorone	-	D

a	b	c
Isopropyl acetate	1220	III
Isopropyl alcohol	1219	III
Kaolin slurry	-	III
Lactic acid	-	D
Lard	-	III
Latex:		
Carboxylated styrene-butadiene copolymer		
Styrene-Butadiene rubber	-	III
Lignin sulphonic acid, sodium salt solution	-	III
Magnesium chloride solution	-	III
Magnesium hydroxide slurry	-	III
3-Methoxy-1-butanol	-	III
3-Methoxybutyl acetate	-	D
Methyl acetate	1231	III
Methyl acetoacetate	-	D
Methyl alcohol	1230	III

a	b	c
Methyl butanol	-	(D)
Methyl tert-butyl ether	2398	D
Methyl butyl ketone	-	D
Methyl butynol	-	D
Methyl ethyl ketone	1193	III
Methyl isobutyl ketone	1245	D
3-Methyl-3-methoxy butanol	-	III
3-Methyl-3-methoxy butyl acetate	-	III
Molasses	-	III
Naphthalene sulphonic acid/ Formaldehyde copolymer, sodium salt solution	-	D
Nitrilotriacetic acid, trisodium salt solution	-	D
Nonanoic acid (all isomers)	-	D
Nonyl methacrylate monomer	-	(D)

a	b	c
Noxious liquid, n.o.s. (17) (trade name ..., contains ...) Cat. D ^{1/}	-	D
Non-noxious liquid, n.o.s. (18) (trade name ..., contains ...) Appendix III ^{1/}	-	III
Octanoic acid (all isomers)	-	D
n-Octyl acetate	1262	D
Octyl decyl adipate	-	III
Olefins (C ₁₃ and above, all isomers)	-	III
alpha-Olefins (C ₁₃ -C ₁₈)	-	III
Oleic acid	-	D
Palm oil fatty acid methyl ester	-	D
Palm stearin	-	D
n-Paraffins (C ₁₀ -C ₂₀)	-	III

^{1/} In case of a specific n.o.s. (not otherwise specified) cargo assessed as falling within this n.o.s. group that is carried on a ship, this entry, including the cargo's trade name and one or two principle components, should be provided in the shipping document.

a	b	c
Paraffin wax	-	III
Pentaethylenehexamine	-	D
Pentanoic acid	-	D
Petrolatum	-	(III)
Polyaluminium chloride solution	-	III
Polybutene	-	III
Polyethylene glycol	-	III
Polyethylene glycol dimethyl ether	-	III
Polypropylene glycol	-	D
Polypropylene glycol methyl ether	-	III
Polysiloxane	-	III
n-Propyl acetate	1276	D
n-Propyl alcohol	1274	III
Propylene/Butylene copolymer	-	III
Propylene glycol	-	III
Propylene glycol ethyl ether	-	(D)

a	b	c
Propylene glycol methyl ether	-	(D)
Propylene glycol monoalkyl ether	-	(D)
Sodium aluminosilicate slurry	-	III
Sodium carbonate solution	-	D
Sodium silicate solution	-	D
Sorbitol solution	-	III
Sulpholane	-	D
Tallow	-	D
Tallow fatty acid	-	(D)
Tetraethylene glycol	-	III
Tridecane	-	III
Tridecanoic acid	-	(III)
Triethylene glycol	-	III
Triethylene glycol butyl ether	-	III
Triethylene glycol ethyl ether	-	(D)
Triethylene glycol methyl ether	-	(D)

a	b	c
Triisopropanolamine	-	III
Trimethylol propane polyethoxylate	-	D
Tripropylene glycol	-	III
Tripropylene glycol methyl ether	-	(D)
Urea/Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	-	(D)
Urea/Ammonium nitrate solution	-	D
Urea/Ammonium phosphate solution	-	D
Urea formaldehyde resin solution	-	III
Urea solution	-	III
Vegetable oil, n.o.s. including: Castor oil, Coconut oil, Corn oil, Cotton seed oil, Groundnut oil, Linseed oil, Olive oil, Palm nut oil, Palm oil, Rape seed oil, Rice bran oil, Safflower oil, Sesame oil, Soya bean oil, Sunflower oil, Tung oil	-	D
Vegetable protein solution (hydrolysed)	-	III
Water	-	III

第 99/2014 號行政長官公告**Aviso do Chefe do Executivo n.º 99/2014**

中央人民政府命令在澳門特別行政區執行聯合國安全理事會關於中非共和國問題的第2127(2013)號及第2134(2014)號決議；

安全理事會第2127(2013)號決議所設委員會於二零一四年五月十四日發出了受上指第2127(2013)號及第2134(2014)號決議制裁措施影響的個人和實體清單；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈安全理事會關於中非共和國問題第2127(2013)號決議所設委員會於二零一四年五月十四日制定及維持的清單的英文原文及其葡文譯本。

二零一四年十一月十八日發佈。

行政長官 崔世安

Considerando que o Governo Popular Central ordenou a aplicação na Região Administrativa Especial de Macau das Resoluções do Conselho de Segurança das Nações Unidas n.º 2127 (2013) e n.º 2134 (2014), relativas à República Centro-Africana;

Mais considerando que, em 14 de Maio de 2014, o Comité do Conselho de Segurança instituído nos termos da Resolução n.º 2127 (2013) emitiu a lista das pessoas singulares e entidades sujeitas às medidas sancionatórias impostas pelas referidas Resoluções n.º 2127 (2013) e n.º 2134 (2014);

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a lista estabelecida e mantida pelo Comité instituído nos termos da Resolução n.º 2127 (2013) relativa à República Centro-Africana em 14 de Maio de 2014, na sua versão original em língua inglesa, acompanhada da tradução para a língua portuguesa.

Promulgado em 18 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

The List established and maintained by
the Committee established pursuant to resolution 2127 (2013) concerning
the Central African Republic

Last updated on: 14 May 2014

Composition of the List

The list consists of the two sections specified below:

A. Individuals

B. Entities and other groups

A. Individuals

CFi.001 Name: 1: FRANÇOIS 2: YANGOUVONDA 3: BOZIZÉ 4: na

Title: na **Designation:** na **DOB:** 14 Oct. 1946 **POB:** Mouila, Gabon **Good quality a.k.a.:** Bozize Yangouvonda **Low quality a.k.a.:** na **Nationality:** na **Passport no.:** na **National identification no.:** na **Address:** na **Listed on:** 9 May 2014 **Other information:** Mother's name is Martine Kofio

CFi.002 Name: 1: NOURREDINE 2: ADAM 3: na 4: na

Title: na **Designation:** a) General b) Minister for Security c) Director General of the "Extraordinary Committee for the Defence of Democratic Achievements" **DOB:** a) 1970 b) 1969 c) 1971 **POB:** Ndele, Central African Republic **Good quality a.k.a.:** a) Nureldine Adam b) Nourreldine Adam c) Nourreddine Adam **Low quality a.k.a.:** na **Nationality:** Central African Republic **Passport no.:** na **National identification no.:** na **Address:** na **Listed on:** 9 May 2014 **Other information:** na

CFi.003 Name: 1: LEVY 2: YAKETE 3: na 4: na

Title: na **Designation:** na **DOB:** a) 14 Aug. 1964 b) 1965 **POB:** Bangui, Central African Republic **Good quality a.k.a.:** a) Levi Yakite b) Levy Yakété c) Levi Yakété **Low quality a.k.a.:** na **Nationality:** Central African Republic **Passport no.:** na **National identification no.:** na **Address:** na **Listed on:** 9 May 2014 **Other information:** Father's name is Pierre Yakété and Mother's name is Joséphine Yamazon.

B: Entities and other groups

**Lista estabelecida e mantida pelo Comité instituído nos
termos da Resolução n.º 2127 (2013) relativa à República
Centro-Africana**

Última actualização: 14 de Maio de 2014

Composição da Lista

A lista é constituída pelas duas secções a seguir indicadas:

A. Pessoas singulares

B. Entidades e outros grupos

A. Pessoas singulares

CFi.001 Nome: 1: FRANÇOIS 2: YANGOUVONDA 3: BOZIZÉ 4: —

Título: — **Cargo:** — **Data de nascimento:** 14/10/1946 **Local de nascimento:** Mouila, Gabão **Também conhecido por, suficiente para identificação:** Bozize Yangouvonda **Também conhecido por, insuficiente para identificação:** — **Nacionalidade:** — **Passaporte n.º:** — **N.º de identificação nacional:** — **Endereço:** — **Data de inserção na lista:** 9/5/2014 **Outras informações:** Filiação materna: Martine Kofio

CFi.002 Nome: 1: NOURREDINE 2: ADAM 3: — 4: —

Título: — **Cargo:** a) General b) Ministro da Segurança c) Director Geral do “Comité Extraordinário para a Defesa dos Progressos Democráticos” **Data de nascimento:** a) 1970 b) 1969 c) 1971 **Local de nascimento:** Ndele, República Centro-Africana **Também conhecido por, suficiente para identificação:** a) Nureldine Adam b) Nourreldine Adam c) Nourreddine Adam **Também conhecido por, insuficiente para identificação:** — **Nacionalidade:** República Centro-Africana **Passaporte n.º:** — **N.º de identificação nacional:** — **Endereço:** — **Data de inserção na lista:** 9/5/2014 **Outras informações:** —

CFi.003 Nome: 1: LEVY 2: YAKETE 3: — 4: —

Título: — **Cargo:** — **Data de nascimento:** a) 14/8/1964 b) 1965 **Local de nascimento:** Bangui, República Centro-Africana **Também conhecido por, suficiente para identificação:** a) Levi Yakite b) Levy Yakété c) Levi Yakété **Também conhecido por, insuficiente para identificação:** — **Nacionalidade:** República Centro-Africana **Passaporte n.º:** — **N.º de identificação nacional:** — **Endereço:** — **Data de inserção na lista:** 9/5/2014 **Outras informações:** Filiação paterna: Pierre Yakété; filiação materna: Joséphine Yamazon.

B: Entidades e outros grupos

第 100/2014 號行政長官公告

中華人民共和國是國際海事組織的成員國及一九七四年十一月一日訂於倫敦的《國際海上人命安全公約》的締約國；

國際海事組織海上安全委員會於一九九六年十二月五日透過第MSC.58(67)號決議通過了《國際散裝運輸危險化學品船舶構造和設備規則》(《國際散化規則》)修正案，該修正案自一九九九年十二月二十日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.58(67)號決議的中文及英文文本。

二零一四年十一月二十日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 100/2014

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional e um Estado Contratante da Convenção Internacional para a Salvaguarda da Vida Humana no Mar, concluída em Londres em 1 de Novembro de 1974;

Considerando igualmente que, em 5 de Dezembro de 1996, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.58(67), adoptou emendas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Substâncias Químicas Perigosas a Granel (Código IBC), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau, a partir de 20 de Dezembro de 1999;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.58(67), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 20 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.58 (67) 號決議

(1996 年 12 月 5 日通過)

通過《國際散裝運輸危險化學品船舶構造和設備規則》 (《國際散化規則》) 修正案

海上安全委員會，

憶及《國際海事組織公約》有關本委員會職責的第 28 (b) 條，

還憶及它據之通過《國際散裝危險品運輸船舶構造和設備規則》
(《國際散化規則》) 的第 MSC.4 (48) 號決議，

又憶及經修正的《1974 年國際海上人命安全公約》(《安全公約》)
有關《國際散化規則》修正程序的正文第 VIII (b) 條和附件第 VII/8.1
條，

希望使《國際散化規則》得到不斷更新，

在其第六十七次會議上審議了按《安全公約》正文第 VIII (b) (i)
條提議和分發的該規則修正案，

鑑於使在經《1978 年議定書修訂的 1973 年國際防止船舶造成污
染公約》(《73/78 年防污公約》) 和《1974 年安全公約》中均為強制
要求的《國際散化規則》的規定保持相同是極其必要的，

1. 按照《安全公約》正文第 VIII (b) (iv) 條通過該規則的修正案，
其條文載於本決議附件中；

2. 按照本公約正文第 VIII (b)) (vi) (2) (bb) 條決定：這些修正案在 1998 年 1 月 1 日應視為已被接受，除非在該日期之前超過三分之一的《安全公約》締約政府或其綜合商船隊不少於世界商船隊總噸位 50% 的締約政府作出了反對這些修正案的**通知**；
3. 請各締約政府注意，按照《安全公約》正文第 VIII (b) (vii) (2) 條，這些修正案在按上文第 2 段被獲得接受後，應於 1998 年 7 月 1 日生效；
4. 要求秘書長按照《安全公約》正文第 VIII (b) (v) 條將本決議及附件中所載修正案條文的核證副本分發給《安全公約》的所有締約政府；
5. 還要求秘書長將本決議及其附件的副本分發給非屬《安全公約》締約政府的本組織會員。

附 件

《國際散裝運輸危險化學品船舶構造和設備規則》（《國際散 化規則》）修正案

第 1 章

總則

- 1 在現有的第 1.3.22 款後加入下列新的第 1.3.22A 款：

“1.3.22A 經認可的標準係指主管機關可以接受的適用國際或國家標準或由某一組織制定和保持的、符合本組織通過的標準並獲主管機關認可的標準。”

第 2 章

船舶抗沉能力和液貨艙位置

- 2 在第 2.3.3 款中，刪去“應為主管機關可接受的型號並且”等字，在該款末尾加上“並且應符合經認可的標準”等字。

第 3 章

船舶佈置

- 3 在第 3.2.3 款第四句中，將“主管機關允許的”等字改為“安裝的”。
- 4 在第 3.7.1 款第一句中，刪去“在主管機關認可的前提下”等字，將“cargo”一詞改為“Cargo”。

第 4 章

貨物裝容

- 5 在第 4.1.3 款第三句中，將“按主管機關的標準”等字改為“按照經認可的標準”。
- 6 在第 4.1.4 款第二句中，將“按主管機關的標準”等字改為“按照經認可的標準”。

第 5 章

貨物轉移

- 7 在第 5.1.1 款中，效率系數“e”的定義由下列者取代：

“e=效率系數，對於無縫管及對於由經認可的焊接管廠家交貨的、在按經認可的標準對焊縫進行非毀壞性試驗時被視為等同於無縫管的縱向或螺旋焊接管，該系數等於 1.0。在其他情況下，按照經認可的標準，視製造工藝而定，可以要求小於 1.0 的效率系數。”
- 8 在第 5.1.6.1 款中，刪去星號及有關腳註。
- 9 在第 5.1.6.3 款中，將“主管機關可以接受的標準”等字改為“按照經認可的標準”。
- 10 在第 5.2.1 款第二句中將“但主管機關可以接受對這些要求的放寬”等字改為“但可按經認可的標準可以接受對這些要求的放寬”。
- 11 在第 5.2.3.2 款第一句中，將“使主管機關感到滿意”等字改為“符合經認可的標準。”
- 12 在第 5.2.3.3 款中將“主管機關可以接受的”等字改為“符合經認可的標準”。

13 以下文取代現有的第 5.2.4.1 款：

“.1 可以符合經認可的標準的下列者予以特別考慮。”

14 在第 5.3.2 款中，將“主管機關可以接受的標準”等字改為“經認可的標準”。

15 以下列條文取代現有第 5.4.1 款第二句：

“但是，對於液貨艙內的管道和有開口端的管道，可按經認可的標準接受對這些要求放寬。”

16 在第 5.5.2 款最後一句中，以下列條文取代導語的現有條文：

“但是可以接受位於液貨艙外的完全圍閉的液壓驅動閥門，但該閥門應是：”

第 6 章

建造材料

17 在第 6.1.1 款第一句中，將“使主管機關感到滿意”等字改為“按照經認可的標準”。

18 在第 6.2.5 款第二句中，將“主管機關允許的”等字改為“安裝的”。

第 8 章

液貨艙透氣系統

19 在第 8.3.4 款中，將“使主管機關核准的型號”等字改為“經核准的型號”。

第 10 章

電氣裝置

- 20 在第 10.2.3.4.2 款第二句中，將“使主管機關感到滿意”等字改為“按照經認可的標準”。

第 11 章

防火和滅火

- 21 在第 11.2.3 款中，將“能向主管機關證實”等字刪去，將“鹵代烴”等字改為“等同介質”。

第 15 章

特別要求

- 22 在第 15.8.8 款第一句中，將“或主管機關可以接受的其他材料”等字改為“按照經認可的標準”刪去第二句。
- 23 在第 15.8.9 款第三句中將“by the Administration(由主管機關)”等字刪去。
- 24 在第 15.12.1.4 款中，將“主管機關核准的型號”等字改為“經核認的型號”。
- 25 在第 15.19.7.3 款中將“港口當局”等字改為“港口國當局”。

RESOLUTION MSC.58(67)
(adopted on 5 December 1996)

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING DANGEROUS
CHEMICALS IN BULK (IBC 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.4(48) by which it adopted the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code),

RECALLING FURTHER article VIII(b) and regulation VII/8.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, concerning the procedure for amending the IBC Code,

BEING DESIROUS of keeping the IBC Code up to date,

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

CONSIDERING that it is highly desirable for the provisions of the IBC Code, which are mandatory under both the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) and the 1974 SOLAS Convention, to remain identical,

1. ADOPTS, in accordance with article VIII(b)(iv) of the SOLAS Convention, amendments to the Code the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 1998, unless, prior to that date, more than one third of the Contracting Governments to the SOLAS 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 note that, in accordance with article VIII(b)(vii)(2) of the SOLAS Convention, the amendments shall enter into force on 1 July 1998 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the SOLAS 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 SOLAS Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the SOLAS Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
DANGEROUS CHEMICALS IN BULK (IBC CODE)****CHAPTER 1 - GENERAL**

- 1 The following new paragraph 1.3.22A is added after existing paragraph 1.3.22:

"1.3.22A *Recognized standards* are applicable international or national standards acceptable to the Administration or standards laid down and maintained by an organization which complies with the standards adopted by the Organization and which is recognized by the Administration."

CHAPTER 2 - SHIP SURVIVAL CAPABILITY AND LOCATION OF CARGO TANKS

- 2 In paragraph 2.3.3, the words "should be a type acceptable to the Administration and" are deleted and the words "and should comply with recognized standards" are added at the end of the paragraph.

CHAPTER 3 - SHIP ARRANGEMENTS

- 3 In paragraph 3.2.3, in the fourth sentence, the words "permitted by the Administration" are replaced by the word "fitted".

- 4 In paragraph 3.7.1, in the first sentence, the words "Subject to the approval of the Administration," are deleted and the word "cargo" is replaced by the word "Cargo".

CHAPTER 4 - CARGO CONTAINMENT

- 5 In paragraph 4.1.3, in the third sentence, the words "according to the standards of the Administration" are replaced by the words "according to recognized standards".

- 6 In paragraph 4.1.4, in the second sentence, the words "according to the standards of the Administration" are replaced by the words "according to recognized standards".

CHAPTER 5 - CARGO TRANSFER

- 7 In paragraph 5.1.1, the definition of the efficiency factor "e" is replaced by the following:

"e = efficiency factor equal to 1.0 for seamless pipes and for longitudinally or spirally welded pipes, delivered by approved manufacturers of welded pipes, which are considered equivalent to seamless pipes when non-destructive testing on welds is carried out in accordance with recognized standards. In other cases, an efficiency factor of less than 1.0, in accordance with recognized standards, may be required depending on the manufacturing process."

- 8 In paragraph 5.1.6.1, the asterisk and related footnote are deleted.
- 9 In paragraph 5.1.6.3, the words "to a standard acceptable to the Administration" are replaced by the words "in accordance with recognized standards".
- 10 In paragraph 5.2.1, in the second sentence, the words ""However, the Administration may accept relaxations from these requirements" are replaced by the words "However, relaxations from these requirements may be accepted in accordance with recognized standards".
- 11 In paragraph 5.2.3.2, in the first sentence, the words "satisfactory to the Administration" are replaced by the words "in accordance with recognized standards".
- 12 In paragraph 5.2.3.3, the words "acceptable to the Administration" are replaced by the words "in accordance with recognized standards".
- 13 Existing paragraph 5.2.4.1 is replaced by the following:
".1 Bellows in accordance with recognized standards may be specially considered."
- 14 In paragraph 5.3.2, the words "standards acceptable to the Administration" are replaced by the words "recognized standards".
- 15 The second sentence of existing paragraph 5.4.1 is replaced by the following:
"However, relaxations from these requirements may be accepted in accordance with recognized standards for piping inside tanks and open-ended piping."
- 16 In paragraph 5.5.2, in the last sentence, the existing text of the introductory phrase is replaced by the following:
"A totally enclosed hydraulically-operated valve located outside the cargo tank may, however, be accepted, provided that the valve is:"

CHAPTER 6 - MATERIALS OF CONSTRUCTION

- 17 In paragraph 6.1.1, in the first sentence, the words "to the satisfaction of the Administration" are replaced by the words "in accordance with recognized standards".
- 18 In paragraph 6.2.5, in the second sentence, the words "may be permitted by the Administration" are replaced by the words "may be fitted".

CHAPTER 8 - CARGO TANK VENT SYSTEMS

- 19 In paragraph 8.3.4, the words "of a type approved by the Administration" are replaced by the words "of an approved type".

CHAPTER 10 - ELECTRICAL INSTALLATIONS

20 In paragraph 10.2.3.4.2, in the second sentence, the words "to the satisfaction of the Administration" are replaced by the words "in accordance with recognized standards".

CHAPTER 11 - FIRE PROTECTION AND FIRE EXTINCTION

21 In paragraph 11.2.3, in the first sentence, the words "it can be demonstrated to the Administration that" are deleted and the words "halogenated hydrocarbons" are replaced by the words "equivalent media".

CHAPTER 15 - SPECIAL REQUIREMENTS

22 In paragraph 15.8.8, in the first sentence, the words "or other materials acceptable to the Administration" are replaced by the words "in accordance with recognized standards" and the second sentence is deleted.

23 In paragraph 15.8.9, in the third sentence, the words "by the Administration" are deleted.

24 In paragraph 15.12.1.4, the words "of a type approved by the Administration" are replaced by the words "of an approved type".

25 In paragraph 15.19.7.3, the words "port Administrations" are replaced by the words "port State authority".

第 101/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零零年十二月五日透過第MSC.102(73)號決議通過了《國際散裝運輸危險化學品船舶構造和設備規則》(IBC規則)修正案，該修正案自二零零二年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.102(73)號決議的中文及英文文本。

二零一四年十一月二十日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 101/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 5 de Dezembro de 2000, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.102(73), adoptou emendas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Substâncias Químicas Perigosas a Granel (Código IBC), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau, a partir de 1 de Julho de 2002;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.102(73), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 20 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.102 (73) 號決議

(2000 年 12 月 5 日通過)

通過《國際散裝運輸危險化學品船舶構造和 設備規則》(IBC 規則) 修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職責的第 28 (b) 條，

又憶及第 MSC.4 (48) 號決議，委員會以該決議通過了《國際散裝運輸危險化學品船舶構造和設備規則》(IBC 規則)，

還憶及《1974 年國際海上人命安全公約(SOLAS)》(以下簡稱“本公約”)關於《IBC 規則》修正程序的第 VIII (b) 條和附件第 VII/8.1 條，

希望保持對《IBC 規則》的更新，

考慮到保持在《經 1978 年議定書修訂的 1973 年國際防止船舶造成污染公約》和本公約下都具有強制性的《IBC 規則》規定的同一性是高度可取的，

在其第 73 次會議上，審議了根據本公約第 VIII (b) (i) 條提議並分發的《IBC 規則》修正案，

1. 根據本公約第 VIII (b) (iv) 條，**通過了**《IBC 規則》修正案，其條文列於本決議附件中；
2. 根據本公約第 VIII (b) (vi) (2) (bb) 條，**決定**修正案應於 2002 年 1 月 1 日視為已被接受，除非在此日期之前，有超過三分之一的本公約締約國政府或合計商船總噸位不少於世界商船總噸位 50% 的締約國政府，通知其反對該修正案；
3. **請**締約國政府注意，根據本公約第 VIII (b) (vii) (2) 條，修正案依上述第 2 段被接受後，應於 2002 年 7 月 1 日生效；
4. **要求**秘書長按照本公約第 VIII (b) (v) 條，將本決議和附件中所載修正案條文的核證副本發送所有締約國政府；
5. **還要求**秘書長將本決議及其附件的副本發送不是本公約締約國政府的本組織會員。

附件

《國際散裝運輸危險化學品船舶構造和設備規則》

(IBC 規則) 修正案

第 5 章 – 貨物輸送

5.7 船舶的液貨軟管

- 1 現有第 5.7.3 款由下文代替：

“5.7.3 對於 2002 年 7 月 1 日或以後安裝到船上的液貨軟管，配有端部附件的每一新型液貨軟管，應在正常環境溫度下，以從零到至少兩倍於規定最大工作壓力進行 200 個壓力周期的原型試驗。經過周期壓力試驗後，原型試驗應表明爆破壓力至少為在極限工作溫度下其規定最大工作壓力的 5 倍。原型試驗用過的軟管不應再用於貨物輸送。此後，每一段新生產的液貨軟管在投入使用前，應在環境溫度下進行靜水壓力試驗，試驗壓力值不低於其規定最大工作壓力的 1.5 倍，但不高於其爆破壓力的 2/5。軟管上應用模版印製或其他方式標出試驗日期，其規定最大工作壓力以及，如果用於環境溫度服務以外的服務，其允許的相應最高和最低服務溫度。規定最大工作壓力應不小於 10bar 表壓。”

第 8 章－貨艙透氣和除氣裝置

2 在第 8.1.1 款中，“本”字由“除另有明確規定外，本”等若干詞代替。

3 在現有第 8.1.5 款後新增第 8.1.6 款如下：

“8.1.6 在 1986 年 7 月 1 日或以後，但在 2002 年 7 月 1 日以前建造的船舶，應於 2002 年 7 月 1 日後的第一次定期塢修之日符合第 8.3.3 款的要求，但不得晚於 2005 年 7 月 1 日。然後，主管機關可批准對 1986 年 7 月 1 日或以後但在 2002 年 7 月 1 日以前建造的 500 總噸以下的船舶放寬對第 8.3.3 款的要求。”

4 在現有第 8.3.2 款的最後一句中，對“8.3.5”的引述由“8.3.6”代替。

5 在現有第 8.3.2 款後新增第 8.3.3 款如下：

“8.3.3 在 2002 年 7 月 1 日或以後建造的船舶上，受控制的液艙透氣系統應由允許蒸氣充分流動釋放的一個主要裝置和一個輔助裝置組成，以免在一個裝置失靈時出現超壓或負壓。作為替代，輔助裝置可由安裝於每一液艙而在船舶貨物控制室或通常進行貨物操作的位置裝有監測系統的壓力傳感器組成。此種監測系統還應裝有一個報警裝置，它能在探測到艙內出現超壓或負壓時啟動。”

6 將現有第 8.3.3 至 8.3.7 款重新編號為第 8.3.4 至 8.3.8 款。

7 在現有第 8.3.5 款的最後一句中，對“8.3.3.1”的提及由“8.3.4.1”代替。

第 14 章 – 人員保護

8 現有第 14.2.9 款由下文代替：

“14.2.9 船舶應根據本組織制定的導則配備醫療急救設備，包括氧氣復蘇設備和對相應於所載貨物的解毒劑。”

第 15 章 – 特殊要求

9 現有第 15.3 款由下文代替：

“15.3 二硫化碳

二硫化碳可以在使用下列各款所規定的水墊或惰性氣體墊的情況下進行運載。

在使用水墊的情況下進行運載

15.3.1 在貨物裝卸和轉運過程中，應作出安排以在液貨艙內維持水墊。此外，在轉運過程中，貨艙的保留空間應維持惰性氣體襯墊。

15.3.2 所有開口應位於液貨艙的頂部，高於甲板。

15.3.3 裝貨管路應在接近液貨艙底處終止。

15.3.4 應備有標準液面測量孔，以便應急測深用。

15.3.5 貨物管道和透氣管系應獨立於其他貨物使用的管道和透氣管系。

15.3.6 如係深井泵或液壓驅動的可潛泵，則其可用於卸貨。深井泵的驅動方式應不產生點燃二硫化碳的火源，並且不得採用溫度可能超過 80°C 的設備。

15.3.7 如果使用卸貨泵，應將其從頂部放入到接近船底的某點的圓柱形井中。在打算將泵取出之前，該圓柱形井中應形成一層水墊，除非證實該艙已經除氣。

15.3.8 如果貨物系統設計係用於預定的壓力和溫度，可使用水或惰性氣體的置換來卸貨。

15.3.9 安全釋放閥應以不鏽鋼製成。

15.3.10 由於二硫化碳的低燃點和需要幾乎密閉來阻止其火焰蔓延，所以在第 10.2.3 款中所述的危險位置只許設置自身安全的系統和電路。

在使用合適的惰性氣體墊的情況下進行運載

15.3.11 二硫化碳應裝載在設計壓力不小於 0.6bar 表壓的獨立液貨艙中。

15.3.12 所有開口應位於液貨艙的頂部，高於甲板。

15.3.13 置放系統中所用的墊片應是不與二硫化碳起化學反應或不在二硫化碳中溶解的材料製成。

15.3.14 在置放貨物系統中，包括蒸氣管線，不允許有螺紋接頭。

15.3.15 裝貨前，液貨艙應使用合適的惰性氣體惰化，直至氧氣的體積含量為 2%或以下。液貨艙應裝設在裝卸和運輸過程中自動維持艙內合適惰性氣體正壓力的裝置。該系統應能將正壓力維持在 0.1 和 0.2bar 表壓之間，並能被遙控監測，以及裝有過壓/低壓報警裝置。

15.3.16 對環圍裝載二硫化碳的獨立液貨艙的空間，應使用合適的惰性氣體惰化，直至氧氣含量為 2%或以下。應裝設在整個航程中監測和維持惰性氣體處於該狀態的裝置。還應裝設在該空間採集二硫化碳蒸氣樣品的裝置。

15.3.17 二硫化碳的裝卸和運輸應以不發生向大氣透氣的方式進行。如果二硫化碳蒸氣在裝載過程中回到岸上，或在卸載過程中回到船上，蒸氣回路系統應獨立於所有的其他貨物置放系統。

15.3.18 二硫化碳應只能使用浸沒式深井泵或合適的惰性氣體置換方式卸貨。浸沒式深井泵工作時應採取防止泵內聚熱的方式進行。在泵的外殼上還應配備溫度傳感器，並在貨物控制室中裝有遙控讀數表和警報器。報警溫度應設在 80°C。泵還應設置自動關閉裝置，如在卸貨期間液貨艙壓力降低於大氣壓時，可自動關閉。

15.3.19 當有二硫化碳置放於該系統中時，不得有空氣進入貨艙、貨泵或貨物管路。

15.3.20 任何其他貨物裝卸、洗艙或壓載均不得與二硫化碳裝卸同時進行。

15.3.21 應設置能力足夠的噴水滅火系統，以有效覆蓋裝貨歧管周圍的區域、露天甲板上與貨物作業相關的管線和液貨艙圓頂的區域。管路和噴嘴應佈置成能提供 10 升/米²/分鐘的均勻出水率。該系統應有手動遙控的操作裝置，以便萬一被保護區域着火時，能在貨物區域以外的鄰近於居住處所的適當位置和能隨時進入並易於操作的位置，遙控起動供應噴水系統的泵和遙控操作系統中任何通常關閉着的閥。該噴水系統應能就地和遙控手動操作，而且其佈置應為能保證將任何泄漏的貨物沖掉。此外，在大氣溫度許可時，應將加壓至噴嘴的供水軟管連接妥當，以便裝卸作業期間隨時可用。

15.3.22 液貨艙在參照溫度（R）下所裝液貨不得超過其容積的 98%。

15.3.23 一個液貨艙所裝貨物的最大體積（V_L）應為：

$$V_L = 0.98V \frac{\rho_R}{\rho_L}$$

其中：V= 液貨艙的容積

ρ_R = 貨物在參照溫度（R）下的相對密度

ρ_L = 貨物在裝載溫度下的相對密度

R = 參照溫度，即貨物蒸氣壓力與壓力釋放閥的調定壓力相等時的溫度。

15.3.24 應針對可能適用的每一裝載溫度和相應的最大參照溫度，將每一液貨艙的最大許可充裝極限標於主管機關認可的表格中。船長應在船上長期保存該表格的副本。

15.3.25 開敞甲板區域，或開敞甲板被確認運載二硫化碳的液貨艙的排出口、氣體或蒸氣的排出口、貨物管線的法蘭或貨物閥 3 米以內的半封閉空間，應該符合第 17 章“i”欄內為二硫化碳規定的電氣設備要求。此外，在所述的區域內，還不得允許有任何其他的熱源，諸如表面溫度超過 80°C 的蒸汽管線。

15.3.26 應裝有不用打開液艙或不用攪亂合適的惰性氣體保護層的液位測量和貨樣採集裝置。

15.3.27 該貨品只能按照主管機關認可的貨物裝卸計劃進行運輸。貨物裝卸計劃應標明整個貨物管系。船上應備有認可的貨物裝卸計劃副本。簽發《國際散裝危險化學品適裝證書》應包括涉及認可的貨物裝卸計劃。”

第 16 章 — 操作要求

10 現有第 16.3.3 款由下文代替：

“16.3.3 對高級船員應根據本組織制定的導則進行應急程序培訓，以便處理貨物泄漏、溢出或火災等情況，並對其中足夠數量的人員進行與所載貨物相關的基本急救方面的授課和訓練。”

11 在附加性操作要求清單（第 16.7 款）中，在“7.1.6.3”下增加“8.3.6”。

RESOLUTION MSC.102(73)
(adopted on 5 December 2000)

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING DANGEROUS
CHEMICALS IN BULK (IBC 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.4(48) by which it adopted the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code),

RECALLING FURTHER article VIII(b) and regulation VII/8.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”) concerning the procedure for amending the IBC Code,

BEING DESIROUS of keeping the IBC Code up to date,

CONSIDERING that it is highly desirable for the provisions of the IBC Code, which are mandatory under both the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto and the Convention, to remain identical,

HAVING CONSIDERED, at its seventy-third session, amendments to the IBC 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 IBC Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 2002, 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2002 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE FOR THE
CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING
DANGEROUS CHEMICALS IN BULK (IBC CODE)****CHAPTER 5 - CARGO TRANSFER****5.7 Ship's cargo hoses**

- 1 Existing paragraph 5.7.3 is replaced by the following:

"5.7.3 For cargo hoses installed on board ships on or after 1 July 2002, each new type of cargo hose, complete with end-fittings, should be prototype-tested at a normal ambient temperature with 200 pressure cycles from zero to at least twice the specified maximum working pressure. After this cycle pressure test has been carried out, the prototype test should demonstrate a bursting pressure of at least 5 times its specified maximum working pressure at the extreme service temperature. Hoses used for prototype testing should not be used for cargo service. Thereafter, before being placed in service, each new length of cargo hose produced should be hydrostatically tested at ambient temperature to a pressure not less than 1.5 times its specified maximum working pressure, but not more than two-fifths of its bursting pressure. The hose should be stencilled or otherwise marked with the date of testing, its specified maximum working pressure and, if used in services other than the ambient temperature services, its maximum and minimum service temperature, as applicable. The specified maximum working pressure should not be less than 10 bar gauge."

CHAPTER 8 - CARGO-TANK VENTING AND GAS-FREEING ARRANGEMENTS

- 2 In paragraph 8.1.1, the word "This" is replaced by the words "Unless expressly provided otherwise, this".

- 3 The following new paragraph 8.1.6 is added after the existing paragraph 8.1.5:

"8.1.6 Ships constructed on or after 1 July 1986, but before 1 July 2002 should comply with the requirements of paragraph 8.3.3 by the date of the first scheduled dry-docking after 1 July 2002, but not later than 1 July 2005. However, the Administration may approve relaxation of paragraph 8.3.3 for ships of less than 500 gross tonnage which were constructed on or after 1 July 1986, but before 1 July 2002."

- 4 In the last sentence of the existing paragraph 8.3.2, the reference to "8.3.5" is replaced by reference to "8.3.6".

- 5 The following new paragraph 8.3.3 is added after the existing paragraph 8.3.2:

"8.3.3 On ships constructed on or after 1 July 2002, controlled tank venting systems should consist of a primary and a secondary means of allowing full flow relief of vapour to prevent over-pressure or under-pressure in the event of failure of one means.

Alternatively, the secondary means may consist of pressure sensors fitted in each tank with a monitoring system in the ship's cargo control room or position from which cargo operations are normally carried out. Such monitoring equipment should also provide an alarm facility which is activated by detection of over-pressure or under-pressure conditions within a tank."

- 6 The existing paragraphs 8.3.3 to 8.3.7 are renumbered as paragraphs 8.3.4 to 8.3.8.
- 7 In the last sentence of renumbered paragraph 8.3.5, the reference to "8.3.3.1" is replaced by reference to "8.3.4.1".

CHAPTER 14 - PERSONNEL PROTECTION

- 8 Existing paragraph 14.2.9 is replaced by the following:
- "14.2.9 The ship should have on board medical first-aid equipment, including oxygen resuscitation equipment and antidotes for cargoes to be carried, based on the guidelines developed by the Organization."

CHAPTER 15 - SPECIAL REQUIREMENTS

- 9 The existing text of section 15.3 is replaced by the following:

"15.3 Carbon disulphide

Carbon disulphide may be carried either under a water pad or under a suitable inert gas pad as specified in the following paragraphs.

Carriage under water pad

15.3.1 Provision should be made to maintain a water pad in the cargo tank during loading, unloading and transit. In addition, a suitable inert gas pad should be maintained in the ullage space during transit.

15.3.2 All openings should be in the top of the tank, above the deck.

15.3.3 Loading lines should terminate near the bottom of the tank.

15.3.4 A standard ullage opening should be provided for emergency sounding.

15.3.5 Cargo piping and vent lines should be independent of piping and vent lines used for other cargo.

15.3.6 Pumps may be used for discharging cargo provided they are of the deepwell or hydraulically driven submersible types. The means of driving a deepwell pump should not present a source of ignition for carbon disulphide and should not employ equipment that may exceed a temperature of 80°C.

15.3.7 If a cargo discharge pump is used, it should be inserted through a cylindrical well extending from the tank top to a point near the tank bottom. A water pad should be formed in this well before attempting pump removal unless the tank has been certified as gas-free.

15.3.8 Water or inert gas displacement may be used for discharging cargo, provided the cargo system is designed for the expected pressure and temperature.

15.3.9 Safety relief valves should be of stainless steel construction.

15.3.10 Because of its low ignition temperature and close clearances required to arrest its flame propagation, only intrinsically safe systems and circuits should be permitted in the hazardous locations described in 10.2.3.

Carriage under suitable inert gas pad

15.3.11 Carbon disulphide should be carried in independent tanks with a design pressure of not less than 0.6 bar gauge.

15.3.12 All openings should be located on the top of the tank, above the deck.

15.3.13 Gaskets used in the containment system should be of a material which does not react with, or dissolve in, carbon disulphide.

15.3.14 Threaded joints should not be permitted in the cargo containment system, including the vapour lines.

15.3.15 Prior to loading, the tank(s) should be inerted with suitable inert gas until the oxygen level is 2% by volume or lower. Means should be provided to automatically maintain a positive pressure in the tank using suitable inert gas during loading, transport and discharge. The system should be able to maintain this positive pressure between 0.1 and 0.2 bar gauge, and should be remotely monitored and fitted with over/underpressure alarms.

15.3.16 Hold spaces surrounding an independent tank carrying carbon disulphide should be inerted by a suitable inert gas until the oxygen level is 2% or less. Means should be provided to monitor and maintain this condition throughout the voyage. Means should also be provided to sample these spaces for carbon disulphide vapour.

15.3.17 Carbon disulphide should be loaded, transported and discharged in such a manner that venting to the atmosphere does not occur. If carbon disulphide vapour is returned to shore during loading or to the ship during discharge, the vapour return system should be independent of all other containment systems.

15.3.18 Carbon disulphide should be discharged only by submerged deepwell pumps or by a suitable inert gas displacement. The submerged deepwell pumps should be operated in a way that prevents heat build-up in the pump. The pump should also be equipped with a temperature sensor in the pump housing with remote readout and alarm in the cargo control room. The alarm should be set at 80°C. The pump should also be fitted with an

automatic shut-down device, if the tank pressure falls below atmospheric pressure during the discharge.

15.3.19 Air should not be allowed to enter the cargo tank, cargo pump or lines while carbon disulphide is contained in the system.

15.3.20 No other cargo handling, tank cleaning or deballasting should take place concurrent with loading or discharge of carbon disulphide.

15.3.21 A water-spray system of sufficient capacity should be provided to blanket effectively the area surrounding the loading manifold, the exposed deck piping associated with product handling and the tank domes. The arrangement of piping and nozzles should be such as to give a uniform distribution rate of 10 l/m²/min. Remote manual operation should be arranged such that remote starting of pumps supplying the water-spray system and remote operation of any normally closed valves in the system can be carried out from a suitable location outside the cargo area adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected. The water-spray system should be capable of both local and remote manual operation, and the arrangement should ensure that any spilled cargo is washed away. Additionally, a water hose with pressure to the nozzle when atmospheric temperature permits, should be connected ready for immediate use during loading and unloading operations.

15.3.22 No cargo tanks should be more than 98% liquid-full at the reference temperature (R).

15.3.23 The maximum volume (V_L) of cargo to be loaded in a tank should be:

$$V_L = 0.98 V \frac{\rho_R}{\rho_L}$$

where:

V = volume of the tank

ρ_R = relative density of cargo at the reference temperature (R)

ρ_L = relative density of cargo at the loading temperature

R = reference temperature, i.e. the temperature at which the vapour pressure of the cargo corresponds to the set pressure of the pressure-relief valve.

15.3.24 The maximum allowable tank filling limits for each cargo tank should be indicated for each loading temperature which may be applied, and for the applicable maximum reference temperature, on a list approved by the Administration. A copy of the list should be permanently kept on board by the master.

15.3.25 Zones on open deck, or semi-enclosed spaces on open deck within 3 m of a tank outlet, gas or vapour outlet, cargo pipe flange or cargo valve of a tank certified to carry carbon disulphide, should comply with the electrical equipment requirements specified for carbon disulphide in column "i", chapter 17. Also, within the specified zone, no other heat sources, like steam piping with surface temperatures in excess of 80°C should be allowed.

15.3.26 Means should be provided to ullage and sample the cargo without opening the tank or disturbing the positive suitable inert gas blanket.

15.3.27 The product should be transported only in accordance with a cargo handling plan that has been approved by the Administration. Cargo handling plans should show the entire cargo piping system. A copy of the approved cargo handling plan should be available on board. The International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk should be endorsed to include reference to the approved cargo handling plan."

CHAPTER 16 - OPERATIONAL REQUIREMENTS

10 Existing paragraph 16.3.3 is replaced by the following:

"16.3.3 Officers should be trained in emergency procedures to deal with conditions of leakage, spillage or fire involving the cargo, based on the guidelines developed by the Organization, and a sufficient number of them should be instructed and trained in essential first aid for cargoes carried."

11 To the list of additional operational requirements (paragraph 16.7), "8.3.6" is added underneath "7.1.6.3".

第 102/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零四年十二月十日透過第MSC.179 (79) 號決議通過了《國際船舶安全操作和防止污染管理規則》(國際安全管理 (ISM) 規則) 修正案，該修正案自二零零六年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.179 (79) 號決議的中文及英文文本。

二零一四年十一月二十日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 102/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 10 de Dezembro de 2004, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.179 (79), adoptou emendas ao Código Internacional de Gestão para a Segurança da Exploração dos Navios e para a Prevenção da Poluição (Código Internacional de Gestão para a Segurança (ISM)), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau, a partir de 1 de Julho de 2006;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.179 (79), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 20 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.179 (79) 號決議

(2004 年 12 月 10 日通過)

通過《國際船舶安全操作和防止污染管理規則》

(國際安全管理 (ISM) 規則) 修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職能的第 28 (b) 條，

注意到海安會第 A.741 (18) 號大會決議，大會以該決議通過了《國際船舶安全操作和防止污染管理規則》(國際安全管理 (ISM) 規則)(以下簡稱“ISM 規則”)，根據《1974 年國際海上人命安全 (SOLAS) 公約》(以下簡稱“公約”)第 IX 章，該規則已具有強制性，

還注意到公約關於 ISM 規則修正程序的第 VIII (b) 條和第 IX/1.1 條，

在其第七十九屆會議上審議了根據公約第 VIII (b) (i) 條建議並散發的 ISM 規則修正案，

1. 根據公約第 VIII (b) (iv) 條，通過了 ISM 規則的修正案，正文列於本決議之附件；

2. **決定**，根據公約第 VIII (b) (vi) (2) (bb) 條，上述修正案將於 2006 年 1 月 1 日視為已被接受，除非在該日期以前，有超過三分之一的締約國政府或者合計商船總噸位佔世界商船總噸位不少於 50% 的締約國政府通知其反對修正案；
3. **提請**公約締約國政府注意，根據公約第 VIII (b) (vii) (2) 條，修正案在根據上文第 2 段被接受後，將於 2006 年 7 月 1 日生效；
4. **要求**秘書長根據公約第 VIII (b) (v) 條，將本決議及其所附修正案正文的核正無誤副本送公約的所有締約國政府；
5. **還要求**秘書長將本決議及其附件的副本送所有非公約締約國政府的本組織成員。

附 件

《國際船舶安全操作和防止污染管理規則》
(國際安全管理規則)(ISM) 修正案

附 錄

《符合證書》和《安全管理證書》格式

- 1 在《符合證書》的格式中，在以“本符合證書有效期至”開始的一節與以“簽發於”開始的一節之間增加以下新的一節：

“本證書所依據之檢驗的完成日期為.....。”

日/月/年

- 2 在《安全管理證書》的格式中，在以“本安全管理證書有效期至”開始的一節與以“簽發於”開始的一節之間增加以下新的一節：

“本證書所依據之檢驗的完成日期為.....。”

日/月/年

RESOLUTION MSC.179(79)
(adopted on 10 December 2004)

**AMENDMENTS TO THE INTERNATIONAL MANAGEMENT CODE FOR THE SAFE
OPERATION OF SHIPS AND FOR POLLUTION PREVENTION
(INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution A.741(18), by which the Assembly adopted the International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) (hereinafter referred to as “the ISM Code”), which has become mandatory under chapter IX of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation IX/1.1 of the Convention concerning the procedure for amending the ISM Code,

HAVING CONSIDERED, at its seventy-ninth session, amendments to the ISM 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 ISM Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 2006 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2006 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL MANAGEMENT CODE FOR THE
SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION
(INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE)**

APPENDIX

Forms of the Document of Compliance and the Safety Management Certificate

1 In the form of the Document of Compliance, the following new section is inserted between the section commencing with the words “This Document of Compliance is valid until” and the section commencing with the words “Issued at”:

“Completion date of the verification on which this certificate is based:”
(dd/mm/yyyy)

2 In the form of the Safety Management Certificate, the following new section is inserted between the section commencing with the words “This Safety Management Certificate is valid until” and the section commencing with the words “Issued at”:

“Completion date of the verification on which this certificate is based:”
(dd/mm/yyyy)

第 103/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零零年十二月五日透過第MSC.104(73)號決議通過了《國際船舶安全操作和防止污染管理規則》（《ISM規則》）的修正案，該修正案自二零零二年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.104(73)號決議的中文及英文文本。

二零一四年十一月二十一日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 103/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 5 de Dezembro de 2000, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.104(73), adoptou emendas ao Código Internacional de Gestão para a Segurança da Exploração dos Navios e para a Prevenção da Poluição (Código ISM), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau, a partir de 1 de Julho de 2002;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.104(73), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 21 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.104 (73) 號決議

(2000 年 12 月 5 日通過)

通過《國際安全管理規則》(《ISM 規則》)的修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職責的第 28 (b) 條，

又憶及第 18 次大會據以通過《國際船舶安全營運和防止污染管理規則》(《國際安全管理 (ISM) 規則》) 的第 A.741 (18) 號大會決議，

還憶及第 19 次大會據以通過“主管機關實施《國際安全管理 (ISM) 規則》指南”的第 A.788 (19) 號大會決議，

認識到有必要將指南中關於證書和臨時證書的有效期及證書格式的有關規定納入《ISM 規則》，

注意到《1974 年國際海上人命安全公約 (SOLAS)》(以下簡稱“公約”) 關於《ISM 規則》修正程序的第 VIII (b) 條和第 IX/1.1 條，

在其第 73 次會議上，審議了按公約第 VIII (b) (i) 條提議並散發的《ISM 規則》修正案，

1. 按公約第 VIII (b) (iv) 條通過《ISM 規則》修正案，其條文載於本決議附件中；

2. 按公約第 VIII (b) (vi) (2) (bb) 條決定：這些修正案應在於 2002 年 1 月 1 日視為已被接受，除非在此日期之前，有超過三分之一的公約締約政府或其合計商船隊總噸位不少於世界商船隊總噸位 50% 的締約政府通知反對這些修正案；

3. 請各締約政府注意，按公約第 VIII (b) (vii) (2) 條，這些修正案在按上文第 2 段被接受後，應於 2002 年 7 月 1 日生效；

4. 要求秘書長按照公約第 VIII (b) (v) 條，將本決議和附件中所載的修正案條文的核證副本發給本公約所有締約政府；

5. 還要求秘書長將本決議及其附件的副本發給非本公約締約政府的本組織會員。

附件

《國際安全管理（ISM）規則》修正案

- 1 在標題“1 總則”之前增加新的標題“第 A 部分 - 實施”。

1 總則

1.1 定義

- 2 在“1.1 定義”和第 1.1.1 款之間插入：

“以下定義適用於本規則第 A 和 B 部分。”

- 3 在第 1.1.3 款後增加以下新定義：

“1.1.4 **安全管理制度**係指能使用公司人員有效實施公司安全與環境保護方針的有結構和有證書的制度。

1.1.5 **《合格證》**係指發給符合本規則要求的公司的文件。

1.1.6 **《安全管理證書》**係指發給船舶的、證明其公司和船上管理係按經認可的安全管理制度運作的證書。

1.1.7 **客觀證據**係指以評述、測量或測試為基礎並能被核證的關於安全或關於安全管理制度要素的存在和實施的數量的或質量信息、記錄或事實陳述。

1.1.8 **評述**係指在安全管理檢查期間作出的並由客觀證據證實的事實陳述。

1.1.9 **不符**係指所觀察到的由客觀證據證明不符合某一具體要求的情況。

1.1.10 **重大不符**係指對人員或船舶安全構成嚴重威脅或對環境構成嚴重危險、需要立即採取糾正措施的可識別的不符，此外，還包括未能有效和系統地實施本規則的要求。

1.1.11 **周年日期**係指相應於有關文件或證書的失效日期的每年的月份和日期。

1.1.12 **公約**係指經修正的《1974 年國際海上人命安全公約》。”

7 船上操作計劃的制訂

4 原第 7 章的條文由下文取代：

“對涉及船舶安全和防止污染的關鍵性的船上操作，公司應建立制訂有關計劃和須知的程序，適當時包括核查清單。對所涉及的各项任務應作出明確規定並分配給合格的人員。”

13 發證、審核和監督

5 原第 13 章的標題和條文由下文取代：

“第 B 部分 – 發證與審核

13 發證和定期審核

13.1 船舶應由持有與該船相關的《合格證》或第 14.1 款規定的《臨時合格證》的公司經營。

13.2 《合格證》應由主管機關、主管機關認可的機構或應由公約另一締約政府應主管機關的要求頒發給符合本規則要求的任何公司。其有效期由主管機關規定，但不應超過五年。該證書應被視為該公司能否符合本規則有關要求的證據。

13.3 《合格證》僅對證件中指定的船型有效。此種指明應以作為初始審核基礎的船型為依據。其他船型只有在證實公司有能遵守本規則適用於其他船型的要求後才可列入。在此，船型係指公約第 IX/1 條中提及者。

13.4 《合格證》的有效性應以主管機關、主管機關認可的機構或另一締約政府應主管機關的要求在周年日期的前後三個月內進行的年度審核為條件。

13.5 如果沒有申請第 13.4 段要求的年度審核，或如果有與本規則有重大不符的證據，則《合格證》應由主管機關或由簽發證書的締約政府應其要求予以撤銷。

13.5.1 如果《合格證》被撤銷，則所有相關的《安全管理證書》和/或《臨時安全管理證書》也應被撤銷。

13.6 《合格證》的一份副本應保存在船上，以便在有此要求時船長將其出示，供主管機關或由其認可的機構查驗，或供公約第 IX/6.2 條的控制目的使用。對證書的副本不需要認證或核證。

13.7 《安全管理證書》應由主管機關、主管機關認可的機構或應由另一締約國政府應主管機關的要求向船舶頒發，有效期不超過五年。主管機關應在證實該公司及其船舶係按照經批准的

安全管理制度進行營運後頒發安全管理證書。此種證書應視為船舶符合本規則要求的證據。

13.8 《安全管理證書》的有效性應以由主管機關、主管機關認可的機構或由另一締約政府應主管機關的要求作出至少一次中期審核為條件。如果只進行一次中期審核，且《安全管理證書》的有效期為五年，則中期審核應在《安全管理證書》的第二個和第三個周年日期之間進行。

13.9 除 13.5.1 款的要求外，在未要求進行 13.8 款規定的中期審核時或如果有與本規則嚴重不符的證據時，《合格證》應由主管機關或由簽發證書的締約國政府應其要求予以撤銷。

13.10 儘管有第 13.2 和 13.7 款的要求，如果在現有《合格證》或《安全管理證書》到期之前三個月內完成換證審核，則新《合格證》或新《安全管理證書》應自換證審核完成之日起有效，有效期從現有《合格證》或《安全管理證書》到期之日起算不應超過五年。

13.11 如果在現有《合格證》或現有《安全管理證書》到期之日的三個月以前完成換證審核，則新《合格證》或新《安全管理證書》應自換證審核完成之日起有效，有效期從換新審核完成之日起算不應超過五年。”

6 在第 13 章後新增第 14 章如下：

“14 臨時證書

14.1 為便於本規則的最初實施，在證明公司的安全制度符合本規則第 1.2.3 款的目標後，在下列情況下可頒發《臨時合格證》：

- .1 該公司是新成立的；或
- .2 在現有《合格證》中增加新船型，

但該公司應出示在《臨時合格證》的有效期間內實施滿足本規則全部要求的安全管理制度的計劃。此類《臨時合格證》應由主管機關、主管機關認可的機構或由另一締約政府應主管機關的請求頒發；其有效期不應超過 12 個月。《臨時合格證》的一份副本應保存在船上，以便船長在有此要求時將其出示供主管機關或由其認可的機構查驗，或供公約第 IX/6.2 條的監督目的使用。此證明的副本不需要認證或核證。

14.2 在下列情況下可以頒發《臨時安全管理證書》：

1. 對新交付的新船舶；或
2. 在公司承擔其不熟習的船舶的營運責任言屬於新船時；或
3. 當船舶改掛船旗時。

此類《臨時安全管理證書》應由主管機關、主管機關認可的機構或由另一締約政府應主管機關的請求頒發，有效期不應超過 6 個月。

14.3 在特殊情況下，主管機關或，應主管機關請求，另一締約國可將該《臨時安全管理證書》的有效期限從其到期之日起再延長不超過 6 個月的時間。

14.4 在證實下列者後，可頒發《臨時安全管理證書》：

- .1 《合格證》或《臨時合格證》與有關船相關；

- .2 公司為有關船舶確立的安全管理制度包括了本規則的關鍵要素，並在頒發《合格證》的檢查中被評估過，或為頒發《臨時合格證》而驗證過；
- .3 公司已計劃在三個月內對船舶進行檢查；
- .4 船長和高級船員熟悉安全管理制度和為其實施所計劃的安排；
- .5 被確認為必要的須知在開航前已經配備；和
- .6 安全管理制度的相關信息已用工作語文或船上人員都能理解的語文提供。”

7 在新第 14 章後增加新第 15 章如下：

“15 審核

本規則的規定所要求的所有審核應按照主管機關可接受的程序並考慮到本組織制訂的指南來進行。”

8 在新第 15 章後增加新第 16 章如下：

“16 證書格式

16.1 《合格證》、《安全管理證書》、《臨時合格證》和《臨時安全管理證書》應按本規則附錄中的範本的相應格式製成。如果所用的語文不是英文或法文，則條文應包括其中一種語文的譯文。

16.2 除第 13.3 款的要求外，可對《合格證》和《臨時合格證》上指明的船型予以簽註，以反映安全管理制度中所述的任何船舶操作限制。”

9 增加以下附錄：

“附錄

《合格證》、《安全管理證書》、《臨時合格證》

和《臨時安全管理證書》的格式

合格證

(公 章)

(國 名)

證書號：

本證書係根據經修正的《1974 年國際海上人命安全公約》的規定，
經_____政府授權，

(國 名)

由_____頒發。

(經 授 權 的 機 構 或 個 人)

公司名稱和地址.....

.....

(見 《 ISM 規 則 》 第 1.1.2 款)

茲證明該公司的安全管理制度經審核符合《國際船舶安全營運和防止
污染管理規則》(《ISM 規則》)對下列船型的要求(視情刪去)：

- 客船
- 高速客船
- 高速貨船
- 散貨船
- 油船
- 化學品船

氣體運輸船

移動式近海鑽井裝置

其他貨船

本《合格證》有效期至.....，但以定期審核為前提。

頒發於.....

(發證地點)

頒發日期.....

.....

(經正式授權的頒證官員的簽字)

(發證機關章印或鋼印)

證書號：

年度審核簽註

茲證明，在公約第 IX/6.1 條和《ISM 規則》第 13.4 條規定的定期審核中查明該安全管理制度符合《ISM 規則》的要求。

第一次年度審核

簽字：.....

(被授權官員的簽字)

地點：.....

日期：.....

第二次年度審核

簽字：.....

(被授權官員的簽字)

地點：.....

日期：.....

第三次年度審核

簽字：.....

(被授權官員的簽字)

地點：.....

日期：.....

第四次年度審核

簽字：.....

(被授權官員的簽字)

地點：.....

日期：.....

安全管理證書

(公 章)

(國 名)

證書號：

本證書係根據經修正的《1974年國際海上人命安全公約》的規定，
經_____政府授權，

(國 名)

由_____頒發。

(經授權的機構或個人)

船名：

認別編號或字符：

登記港：

船型*：

總噸位：

國際海事組織編號：

公司名稱和地址：

.....

(見《ISM規則》第1.1.2款)

茲證明該船的安全管理制度經審核符合《國際船舶安全營運和防止污染管理規則》(《ISM規則》)的要求，且經審核該公司的《合格證》適用於此類船舶。

本《安全管理證書》有效期至.....，但以定期審核並且《合格證》仍然有效為前提。

* 填入以下船型：客船；高速客船；高速貨船；散貨船；油船；化學品船；氣體運輸船；移動式近海鑽井裝置；其他貨船。

頒發地點.....

(發證地點)

頒發日期.....

.....
(經正式授權簽的發證官員的簽字)

(發證機關章印或鋼印)

證書號：

中期審核和附加審核（如需要）簽註

茲證明，在公約第 IX/6.1 條和《ISM 規則》第 13.8 條規定的定期審核時查明該安全管理制度符合《ISM 規則》的要求。

中期審核
（在發證的第二和第三個周年之日完成）

簽字：.....

（被授權官員的簽字）

地點：.....

日期：.....

附加審核*

簽字：.....

（被授權官員的簽字）

地點：.....

日期：.....

附加審核*

簽字：.....

（被授權官員的簽字）

地點：.....

日期：.....

附加審核*

簽字：.....

（被授權官員的簽字）

地點：.....

日期：.....

* 如適用。參照“主管機關實施《國際安全管理（ISM）規則》指南”第 3.2.3 款（大會第 A.788（19）號決議）。

臨時合格證

(公 章)

(國 名)

證書號：

本證書係根據經修正的《1974 年國際海上人命安全公約》的規定，
經_____政府授權，

(國 名)

由_____頒發。

(經 授 權 的 機 構 或 個 人)

公司名稱和地址.....
.....

(見 《 ISM 規 則 》 第 1.1.2 款)

茲證明該公司的安全管理制度經認定達到《國際船舶安全營運和防止
污染管理規則》(《ISM 規則》) 第 1.2.3 款對下列船型 (酌情刪去不適
船型) 的目標：

- 客船
- 高速客船
- 高速貨船
- 散貨船
- 油船
- 化學品船
- 氣體運輸船
- 移動式近海鑽井裝置
- 其他貨船

本《臨時合格證》有效期至.....

頒發地點.....

(發證地點)

頒發日期.....

.....

(經正式授權的發證官員的簽字)

(發證機關章印或鋼印)

臨時安全管理證書

(公 章)

(國 名)

證書號：

本證書係根據經修正的《1974 年國際海上人命安全公約》的規定，
經_____政府授權，

(國 名)

由_____頒發。

(經 授 權 的 機 構 或 個 人)

船名：

認別編號或字符：

登記港：

船型*：

總噸位：

國際海事組織編號：

公司名稱和地址：

.....

(見 《 ISM 規 則 》 第 1.1.2 款)

茲證明已符合《國際船舶安全營運和防止污染管理規則》(《ISM 規則》) 第 14.4 款的要求，且該公司的《合格證》/《臨時合格證》**與該船相關。

本《臨時安全管理證書》有效期至.....，但以《合格證》/《臨時合格證》**仍然有效為前提。

頒發地點.....

(發 證 地 點)

頒發日期.....

.....

(經正式授權簽的發證官員的簽字)

(發證機關章印或鋼印)

證書號：

本《臨時安全管理證書》的有效期延至：.....

展期日期：.....

.....

(經正式授權的發證官員的簽字)

(發證機關的章印或鋼印)

* 填入以下船型：客船；高速客船；高速貨船；散貨船；油船；化學品船；氣體運輸船；
移動式近海鑽井裝置；其他貨船。

** 視情刪去。”

RESOLUTION MSC.104(73)
(adopted on 5 December 2000)

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL
SAFETY MANAGEMENT (ISM) 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 A.741(18) by which the Assembly, at its eighteenth session, adopted the International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code),

RECALLING FURTHER resolution A.788(19) by which the Assembly, at its nineteenth session, adopted the Guidelines on implementation of the International Safety Management (ISM) Code by Administrations (the Guidelines),

RECOGNIZING the need to incorporate in the ISM Code relevant provisions of the Guidelines relating to periods of validity of certificates, interim certificates and forms of certificates,

NOTING article VIII(b) and regulation IX/1.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”) concerning the procedure for amending the ISM Code,

HAVING CONSIDERED, at its seventy-third session, amendments to the ISM 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 ISM Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 2002, 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2002 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE
INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE**

1 A new heading "PART A - IMPLEMENTATION" is added before the heading "1 GENERAL".

1 GENERAL**1.1 Definitions**

2 The following new sentence is inserted between "1.1 Definitions" and paragraph 1.1.1:

"The following definitions apply to parts A and B of this Code."

3 The following new definitions are added after paragraph 1.1.3:

"1.1.4 *Safety Management System* means a structured and documented system enabling Company personnel to implement effectively the Company safety and environmental protection policy.

1.1.5 *Document of Compliance* means a document issued to a Company which complies with the requirements of this Code.

1.1.6 *Safety Management Certificate* means a document issued to a ship which signifies that the Company and its shipboard management operate in accordance with the approved safety management system.

1.1.7 *Objective evidence* means quantitative or qualitative information, records or statements of fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified.

1.1.8 *Observation* means a statement of fact made during a safety management audit and substantiated by objective evidence.

1.1.9 *Non-conformity* means an observed situation where objective evidence indicates the non-fulfilment of a specified requirement.

1.1.10 *Major non-conformity* means an identifiable deviation that poses a serious threat to the safety of personnel or the ship or a serious risk to the environment that requires immediate corrective action and includes the lack of effective and systematic implementation of a requirement of this Code.

1.1.11 *Anniversary date* means the day and month of each year that corresponds to the date of expiry of the relevant document or certificate.

1.1.12 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.”

7 DEVELOPMENT OF PLANS FOR SHIPBOARD OPERATIONS

- 4 The text of existing chapter 7 is replaced by the following:

“The Company should establish procedures for the preparation of plans and instructions, including checklists as appropriate, for key shipboard operations concerning the safety of the ship and the prevention of pollution. The various tasks involved should be defined and assigned to qualified personnel.”

13 CERTIFICATION, VERIFICATION AND CONTROL

- 5 The title and text of existing chapter 13 is replaced by the following:

"PART B - CERTIFICATION AND VERIFICATION

13 CERTIFICATION AND PERIODICAL VERIFICATION

13.1 The ship should be operated by a Company which has been issued with a Document of Compliance or with an Interim Document of Compliance in accordance with paragraph 14.1, relevant to that ship.

13.2 The Document of Compliance should be issued by the Administration, by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government to the Convention to any Company complying with the requirements of this Code for a period specified by the Administration which should not exceed five years. Such a document should be accepted as evidence that the Company is capable of complying with the requirements of this Code.

13.3 The Document of Compliance is only valid for the ship types explicitly indicated in the document. Such indication should be based on the types of ships on which the initial verification was based. Other ship types should only be added after verification of the Company's capability to comply with the requirements of this Code applicable to such ship types. In this context, ship types are those referred to in regulation IX/1 of the Convention.

13.4 The validity of a Document of Compliance should be subject to annual verification by the Administration or by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government within three months before or after the anniversary date.

13.5 The Document of Compliance should be withdrawn by the Administration or, at its request, by the Contracting Government which issued the document, when the annual verification required in paragraph 13.4 is not requested or if there is evidence of major non-conformity with this Code.

13.5.1 All associated Safety Management Certificates and/or Interim Safety Management Certificates should also be withdrawn if the Document of Compliance is withdrawn.

13.6 A copy of the Document of Compliance should be placed on board in order that the master of the ship, if so requested, may produce it for verification by the Administration or by an organization recognized by the Administration or for the purposes of the control referred to in regulation IX/6.2 of the Convention. The copy of the document is not required to be authenticated or certified.

13.7 The Safety Management Certificate should be issued to a ship for a period which should not exceed five years by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. The Safety Management Certificate should be issued after verifying that the Company and its shipboard management operate in accordance with the approved safety management system. Such a certificate should be accepted as evidence that the ship is complying with the requirements of this Code.

13.8 The validity of the Safety Management Certificate should be subject to at least one intermediate verification by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. If only one intermediate verification is to be carried out and the period of validity of the Safety Management Certificate is five years, it should take place between the second and third anniversary date of the Safety Management Certificate.

13.9 In addition to the requirements of paragraph 13.5.1, the Safety Management Certificate should be withdrawn by the Administration or, at the request of the Administration, by the Contracting Government which has issued it, when the intermediate verification required in paragraph 13.8 is not requested or if there is evidence of major non-conformity with this Code.

13.10 Notwithstanding the requirements of paragraphs 13.2 and 13.7, when the renewal verification is completed within three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate should be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of expiry of the existing Document of Compliance or Safety Management Certificate.

13.11 When the renewal verification is completed more than three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate should be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of completion of the renewal verification.”

6 A new chapter 14 is added after chapter 13 as follows:

“14 INTERIM CERTIFICATION

14.1 An Interim Document of Compliance may be issued to facilitate initial implementation of this Code when:

- .1 a Company is newly established; or
- .2 new ship types are to be added to an existing Document of Compliance,

following verification that the Company has a safety management system that meets the objectives of paragraph 1.2.3 of this Code, provided the Company demonstrates plans to implement a safety management system meeting the full requirements of this Code within the period of validity of the Interim Document of Compliance. Such an Interim Document of Compliance should be issued for a period not exceeding 12 months by the Administration or by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. A copy of the Interim Document of Compliance should be placed on board in order that the master of the ship, if so requested, may produce it for verification by the Administration or by an organization recognized by the Administration or for the purposes of the control referred to in regulation IX/6.2 of the Convention. The copy of the document is not required to be authenticated or certified.

14.2 An Interim Safety Management Certificate may be issued:

- .1 to new ships on delivery; or
- .2 when a Company takes on responsibility for the operation of a ship which is new to the Company; or
- .3 when a ship changes flag.

Such an Interim Safety Management Certificate should be issued for a period not exceeding 6 months by the Administration or an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government.

14.3 An Administration or, at the request of the Administration, another Contracting Government may, in special cases, extend the validity of an Interim Safety Management Certificate for a further period which should not exceed 6 months from the date of expiry.

14.4 An Interim Safety Management Certificate may be issued following verification that:

- .1 the Document of Compliance, or the Interim Document of Compliance, is relevant to the ship concerned;

- .2 the safety management system provided by the Company for the ship concerned includes key elements of this Code and has been assessed during the audit for issuance of the Document of Compliance or demonstrated for issuance of the Interim Document of Compliance;
- .3 the Company has planned the audit of the ship within three months;
- .4 the master and officers are familiar with the safety management system and the planned arrangements for its implementation;
- .5 instructions, which have been identified as being essential, are provided prior to sailing; and
- .6 relevant information on the safety management system has been given in a working language or languages understood by the ship's personnel.”

7 A new chapter 15 is added after new chapter 14 as follows:

“15 VERIFICATION

All verifications required by the provisions of this Code should be carried out in accordance with procedures acceptable to the Administration, taking into account the guidelines developed by the Organization.”

8 A new chapter 16 is added after new chapter 15 as follows:

“16 FORMS OF CERTIFICATES

16.1 The Document of Compliance, the Safety Management Certificate, the Interim Document of Compliance and the Interim Safety Management Certificate should be drawn up in a form corresponding to the models given in the appendix to this Code. If the language used is neither English nor French, the text should include a translation into one of these languages.

16.2 In addition to the requirements of paragraph 13.3 the ship types indicated on the Document of Compliance and the Interim Document of Compliance may be endorsed to reflect any limitations in the operations of the ships described in the safety management system.”

9 The following appendix is added:

"APPENDIX

**Forms of the Document of Compliance, the Safety Management Certificate,
the Interim Document of Compliance and the Interim Safety Management Certificate**

DOCUMENT OF COMPLIANCE

(Official seal)

(State)

Certificate No.

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,
as amended

Under the authority of the Government of _____
(name of the State)

by _____
(person or organization authorized)

Name and address of the Company
.....
(see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the Company has been audited and that it complies with the requirements of the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code) for the types of ships listed below (delete as appropriate):

- Passenger ship
- Passenger high-speed craft
- Cargo high-speed craft
- Bulk carrier
- Oil tanker
- Chemical tanker
- Gas carrier
- Mobile offshore drilling unit
- Other cargo ship

This Document of Compliance is valid until, subject to periodical verification.

Issued at
(place of issue of the document)

Date of issue

.....
(Signature of the duly authorized official issuing the document)

(Seal or stamp of issuing authority, as appropriate)

Certificate No.

ENDORSEMENT FOR ANNUAL VERIFICATION

THIS IS TO CERTIFY THAT, at the periodical verification in accordance with regulation IX/6.1 of the Convention and paragraph 13.4 of the ISM Code, the safety management system was found to comply with the requirements of the ISM Code.

1st ANNUAL VERIFICATION

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

2nd ANNUAL VERIFICATION

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

3rd ANNUAL VERIFICATION

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

4th ANNUAL VERIFICATION

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

SAFETY MANAGEMENT CERTIFICATE

(Official seal)

(State)

Certificate No.

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended

Under the authority of the Government of _____
(name of the State)

by _____
(person or organization authorized)

Name of ship:
Distinctive number or letters:
Port of registry:
Type of ship* :
Gross tonnage:
IMO Number:
Name and address of Company:

(see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the ship has been audited and that it complies with the requirements of the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code), following verification that the Document of Compliance for the Company is applicable to this type of ship.

This Safety Management Certificate is valid until, subject to periodical verification and the Document of Compliance remaining valid.

Issued at.....
(place of issue of the document)

Date of issue

.....
(Signature of the duly authorized official issuing the certificate)

(Seal or stamp of issuing authority, as appropriate)

* Insert the type of ship from among the following: passenger ship; passenger high-speed craft; cargo high-speed craft; bulk carrier; oil tanker; chemical tanker; gas carrier; mobile offshore drilling unit; other cargo ship.

Certificate No.

**ENDORSEMENT FOR INTERMEDIATE VERIFICATION AND
ADDITIONAL VERIFICATION (IF REQUIRED)**

THIS IS TO CERTIFY THAT, at the periodical verification in accordance with regulation IX/6.1 of the Convention and paragraph 13.8 of the ISM Code, the safety management system was found to comply with the requirements of the ISM Code.

INTERMEDIATE VERIFICATION
(to be completed between the **second** and **third** anniversary date)

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

ADDITIONAL VERIFICATION*

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

ADDITIONAL VERIFICATION*

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

ADDITIONAL VERIFICATION*

Signed:.....
(Signature of authorized official)

Place:.....

Date:.....

* If applicable. Reference is made to paragraph 3.2.3 of the Guidelines on Implementation of the International Safety Management (ISM) Code by Administrations (resolution A.788(19)).

INTERIM DOCUMENT OF COMPLIANCE

(Official seal)

(State)

Certificate No.

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,
as amended

Under the authority of the Government of _____
(name of the State)

by _____
(person or organization authorized)

Name and address of the Company
.....
(see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the safety management system of the Company has been recognized as meeting the objectives of paragraph 1.2.3 of the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code), for the type(s) of ships listed below (delete as appropriate):

- Passenger ship
- Passenger high-speed craft
- Cargo high-speed craft
- Bulk carrier
- Oil tanker
- Chemical tanker
- Gas carrier
- Mobile offshore drilling unit
- Other cargo ship

This Interim Document of Compliance is valid until

Issued at
(place of issue of the document)

Date of issue

.....
(Signature of the duly authorized official issuing the document)

(Seal or stamp of issuing authority, as appropriate)

INTERIM SAFETY MANAGEMENT CERTIFICATE

(Official seal)

(State)

Certificate No.

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,
as amended

Under the authority of the Government of _____
(name of the State)

by _____
(person or organization authorized)

Name of ship:
Distinctive number or letters:
Port of registry:
Type of ship*:
Gross tonnage:
IMO Number:
Name and address of Company:
.....
(see paragraph 1.1.2 of the ISM Code)

THIS IS TO CERTIFY THAT the requirements of paragraph 14.4 of the ISM Code have been met and that the Document of Compliance / Interim Document of Compliance** of the Company is relevant to this ship.

This Interim Safety Management Certificate is valid until....., subject to the Document of Compliance / Interim Document of Compliance** remaining valid.

Issued at
(place of issue of the document)

Date of issue

.....
(Signature of the duly authorized official issuing the certificate)

(Seal or stamp of issuing authority, as appropriate)

Certificate No.

The validity of this Interim Safety Management Certificate is extended to:

Date of extension:

.....
(Signature of the duly authorized official extending the validity)

(Seal or stamp of issuing authority, as appropriate)

* Insert the type of ship from among the following: passenger ship; passenger high-speed craft; cargo high-speed craft; bulk carrier; oil tanker; chemical tanker; gas carrier; mobile offshore drilling unit; other cargo ship.

** Delete as appropriate.”

第 104/2014 號行政長官公告**Aviso do Chefe do Executivo n.º 104/2014**

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零四年十二月九日透過第MSC.168(79)號決議通過了《單舷側結構散貨船的舷側結構標準和準則》，該標準和準則自二零零六年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指標準和準則的第MSC.168(79)號決議的中文及英文文本。

二零一四年十一月二十七日發佈。

行政長官 崔世安

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 9 de Dezembro de 2004, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.168(79), adoptou as Normas e Critérios relativos às Estruturas Laterais de Graneleiros de Construção Lateral Simples, e que tais Normas e Critérios são aplicáveis na Região Administrativa Especial de Macau, a partir de 1 de Julho de 2006;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.168(79), que contém as referidas Normas e Critérios, nos seus textos em línguas chinesa e inglesa.

Promulgado em 27 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.168 (79) 號決議

(2004 年 12 月 9 日通過)

單舷側結構散貨船的舷側結構標準和準則

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職能的第 28 (b) 條，

還憶及 1997 年 SOLAS 公約大會通過的關於散貨船附加安全措施的 SOLAS 公約第 XII 章，旨在提高載運固體散裝貨物船舶的安全，

進一步憶及，認識到進一步改進散貨船在設計、結構、設備和操作等各方面安全的必要性，委員會審查了關於散貨船安全的各種綜合安全評估 (FSA) 研究的結果，

認識到，禁止未滿足適當舷側結構強度要求的單舷側結構散貨船在滿載狀態下隔艙裝載重貨，通過減小剪力和彎矩會有助於改進這些船舶的安全，

注意到海安會第 MSC.170 (79) 號決議，委員會以該決議通過了 1974 年 SOLAS 公約的修訂後第 XII 章，特別是第 XII 章第 14 條 – “限制空艙航行”，參照了散貨船為了避免上述限制必須滿足的強制性標準和準則，

注意到國際船級社協會 (IACS) 已經發佈了下列相關的統一要求：

S12 Rev.2.1 – 單舷側散貨船舷側結構；和

S31 – 按 S12 Rev.1 統一要求或以後的修訂版來建造的單舷側
散貨船舷殼骨架更新準則，

考慮到國際船級社協會的上述統一要求分別包含了為確定公約第 XII 章第 14 條是否應適用於某一具體散貨船所需的標準和準則，因此，統一要求應構成所述標準和準則的基礎，

審議了船舶設計和設備分委員會在其第 47 次會議上提出的建議，

1. 為適用公約第 XII 章第 14 條，通過了：

.1 單舷側散貨船舷側結構標準，列於本決議附件 1；和

.2 未按單舷側散貨船舷側結構標準建造的單舷側散貨船舷殼
骨架和墊板更新準則，列於本決議附件 2；

2. 提請公約締約國政府注意，所附的標準和更新準則將在經修正的公約第 XII 章生效後於 2006 年 7 月 1 日發揮效力；

3. 要求秘書長將本決議及其所附的標準和更新準則正文的核證無誤副本轉送公約的所有締約國政府；

4. 還要求秘書長將本決議及其所附的標準和更新準則正文的核證無誤副本轉送所有非公約締約國政府的本組織成員。

附件 1

單舷側散貨船舷側結構標準

1 適用範圍

就《SOLAS 公約》第 XII 章第 14 條而言，這些要求規定了船長在 150 m 及以上並載運密度為 $1,780 \text{ kg/m}^3$ 及以上固體散裝貨物的單舷側散貨船為了不受空艙航行限制，要求其貨物區域內舷側結構的最低標準。

2 舷側結構的材料尺寸

2.1 舷殼板的厚度和截面模數及舷側骨架的剪切面積，應按照主管機關根據《安全公約》第 XI-1 章第 1 條的規定認可的某一船級社的標準或根據具有同等安全水準的適用的主管機關國內標準來確定。

2.2 為防止舷殼板過度施壓變形，應增加直接鄰近防撞艙壁的舷艙骨架的材料尺寸。作為替代性措施，應裝配支撐結構，以保持船艙艙內首尖艙縱樑的連續性。

3 骨架腹板的最低厚度

貨物區域內骨架腹板的厚度應不小於 $t_{w,min}$ ，以 mm 計，由下式得出：

$$t_{w,min} = C (7.0 + 0.03 L)$$

式中：

C = 對於沿着船艙的骨架腹板為 1.15；

對於沿着其他艙的骨架腹板為 1。

L = 在夏季載重水線上從船艙桿前側至舵柱後側的距離，或如果沒有舵柱，至舵桿中心的距離，以 m 計。L 不應小於夏季載重水線上最大長度的 96%且不必大於 97%，但不必超過 200 m。

4 下墊板與上墊板

4.1 骨架下墊板的厚度不應小於 t_w 與 $t_{w,\min} + 2 \text{ mm}$ 中的較大者，其中 t_w 是舷側骨架腹板的適合厚度。骨架墊板座的厚度不應小於 t_w 與 $t_{w,\min}$ 中的較大者。

4.2 在圖 1 所示位置的骨架和墊板或整體墊板及相關的船殼板的截面模數 SM 不應小於對骨架跨中面積要求的截面模數 SM_F 的兩倍。

4.3 下墊板和上墊板的尺度不應小於圖 2 所示的尺度。

4.4 如圖 3 所示，應通過連接墊板，確保頂邊艙和底開艙內與舷側骨架的上端和下端連接的結構連貫性。應根據主管機關按照《SOLAS 公約》第 XI-1 章第 1 條的規定認可的某一船級社的標準或具有同等安全水準的適用的主管機關國內標準，對墊板沿壓曲部位予以加強。

4.5 支撐連接墊板的舷側縱向構件和傾斜艙壁縱向構件的截面模數，應根據主管機關按照《SOLAS 公約》第 XI-1 章第 1 條的規定認可的某一船級社的要求或具有同等安全水準的適用的主管機關國內標準，以橫材間所取的跨距來確定。如果根據主管機關或經認可的船

級社的意見作出了其他安排，舷側縱向構件和傾斜艙壁縱向構件的截面模數應根據適用的標準予以確定，以便墊板得到有效的支撐。

5 舷側骨架型材

5.1 骨架應是組合的對稱型材，帶有整體的上墊板和下墊板，並應裝有軟趾腳。

5.2 舷側骨架法蘭應在與端部墊板連接處成為彎曲形（不是彎成肘節形）。彎曲部分的半徑應不小於 r （以 mm 計），由下式得出：

$$r = \frac{0.4 b_f^2}{t_f}$$

式中 b_f 和 t_f 分別是墊板的寬度和厚度，以 mm 計。法蘭的端部應被剪開。

5.3 在船長小於 190 m 的船上，低碳鋼骨架可以是不對稱的，並可裝配分開的墊板。墊板的面板或法蘭應兩端剪開。墊板應裝配軟趾腳。

5.4 骨架腹板厚度比率不應超過下列數值：

- 對稱的法蘭骨架， $60 k^{0.5}$
- 不對稱法蘭骨架， $50 k^{0.5}$

式中：

對於普通船體結構的鋼材， $k = 1$ ；

對於屈服應力為 315 N/mm^2 的鋼材， $k = 0.78$ ；和

對於屈服應力為 355 N/mm^2 的鋼材， $k = 0.72$ 。

突出的法蘭部分不應超過法蘭淨厚度的 $10 k^{0.5}$ 倍。

6 防歪斜墊板

在不對稱部分的船艙舷側骨架的路徑上應在每兩個骨架上裝配防歪斜墊板，如圖 4 所示。

7 骨架與端部墊板的焊接

7.1 對於骨架和墊板與舷側殼板和底邊艙和頂邊艙板以及腹板與面板的連接應採用雙面連續焊接。

7.2 就本條而言，焊接縫（見圖 1）：

- 在“a”區應為 $0.44 t$
- 在“b”區應為 $0.4 t$

式中 t 為兩個連接部件的較薄者。

7.3 如果船型不適合採用有效的填角焊縫，為了確保如上所述的同樣有效的焊接，可能需要對骨架和墊板的邊緣預加工。

8 舷側殼板的最小淨厚度

位於底邊艙和頂邊艙之間的舷側殼板的厚度不應小於 $t_{p,min}$ （以 mm 計），由下式得出：

$$t_{p,min} = \sqrt{L}$$

圖 1

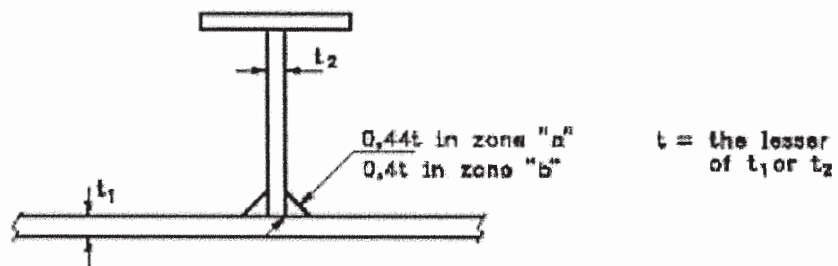
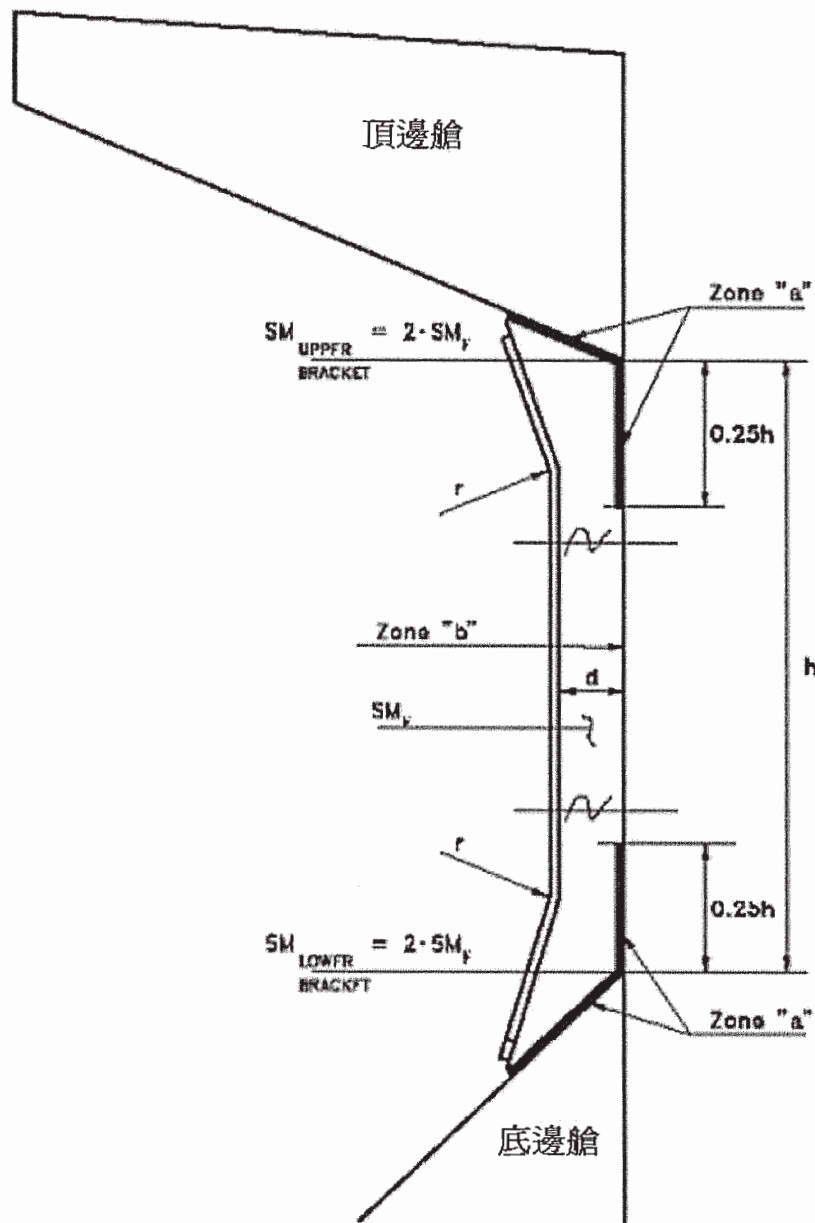


圖 2

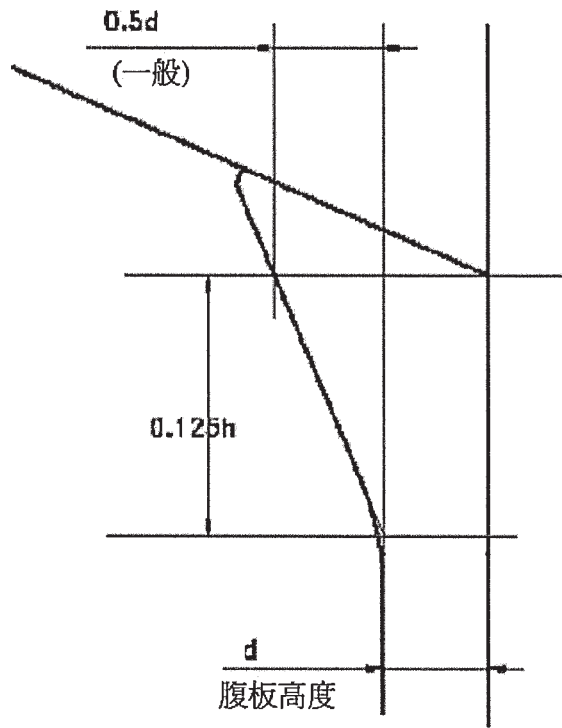


圖 3

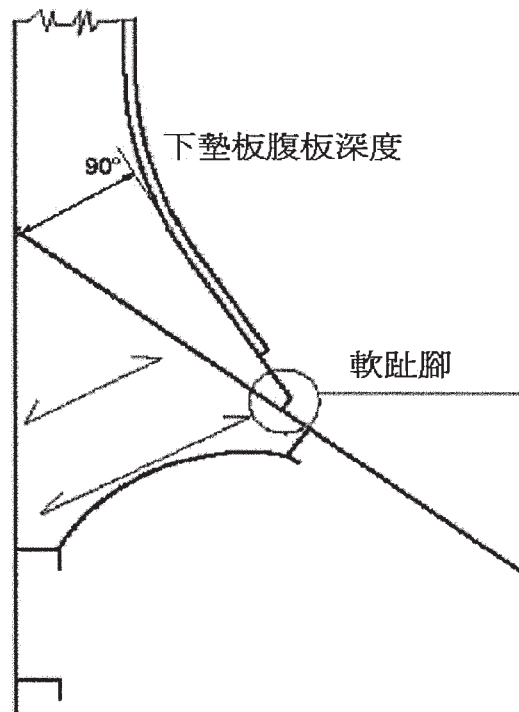
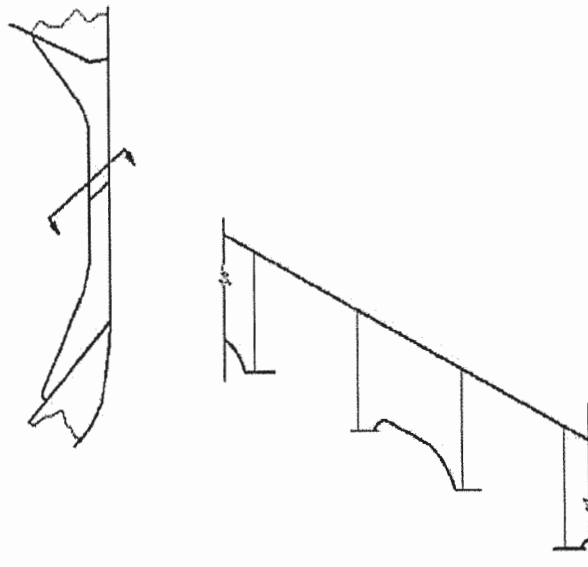


圖 4 - 沿船艙要裝配的防歪斜墊板



附件 2

未按照單舷側散貨船舷側結構標準建造的單舷側

散貨船舷殼骨架和墊板的更新準則

1 適用範圍和定義

就《SOLAS 公約》第 XII 章第 14 條而言，這些要求適用於未按照附件 1 標準建造的單舷側散貨船的舷殼骨架和貨艙墊板，但不受空艙航行限制的散貨船應達到同等的安全水準。

這些要求規定了如第 2 款所述的對舷殼骨架和墊板的腹板和法蘭應適用的鋼材更新準則或應採取的其他措施。

在第 2.3 款中還對舷側骨架的加強措施做出了規定。

不能採用有限單元法或其他數值分析或直接計算程序作為代替方法來滿足本附件的要求，除非本附件的要求不能直接適用於異常的舷側結構安排或框架。

要在船齡達到 10 年時及隨後的每個期間檢驗和換新檢驗之日進行這些要求的符合評估。

1.1 冰區航行加強船

1.1.1 如果對散貨船進行加強以符合冰區船級符號，那麼，在考慮是否符合本附件要求時，不應包括中間骨架。

1.1.2 對附加結構滿足冰區加強符號所要求的更新厚度，應根據

船級社的要求進行。

1.1.3 如果要求撤消冰區船級符號，除防歪斜墊板外（見第 2.1.2.1.b 段和第 2.3 段），不應將附加的冰區加強結構視為有助於符合本附件。

2 更新或其他措施

2.1 更新或其他措施的標準

2.1.1 第 2.1 段中使用的符號

t_M = 測量的厚度，以 mm 計

t_{REN} = 需要更新的厚度（第 2.1.2 段）

$t_{REN,d/t}$ = 基於 d/t 比率的厚度標準（第 2.1.2.1 段）

$t_{REN,S}$ = 基於強度的厚度標準（第 2.1.2.2 段）

$t_{COAT} = 0.75 t_{S12}$

t_{S12} = 附件 1 在第 3 段中對骨架腹板和在第 4 段中對上墊板和
下墊板所要求的厚度，以 mm 計

t_{AB} = 建造的厚度，以 mm 計

t_C = 見下表 1

表 1 – t_c 值，以 mm 計

船舶長度 (m)	除 1 號艙外的貨艙		1 號貨艙	
	跨樑和上墊板	下墊板	跨樑和上墊板	下墊板
≤100	2	2.5	2	3
150	2	3	3	3.5
≥200	2	3	3	4

註：船舶中間長度， t_c 通過上述值之間的線性內插法求得。

2.1.2 腹板標準（剪力和其他檢查）

當測量厚度 (t_M) 等於或小於下列規定的厚度 (t_{REN}) 時，應更新舷殼骨架和墊板的腹板：

t_{REN} 是下列中的最大者：

.1 $t_{COAT} - t_c$

.2 $0.75 t_{AB}$

.3 $t_{REN,d/t}$

.4 $t_{REN,S}$ (第 2.1.2.2 段所要求)

2.1.2.1 基於 d/t 比的厚度標準

根據下列 b) 和 c)， $t_{REN,d/t}$ 可用下面公式得出：

$$t_{REN,d/t} = (\text{腹板深度, mm}) / R$$

式中：

$R =$ 對於骨架

對於對稱的法蘭骨架，為 $65 k^{0.5}$

對於不對稱的法蘭骨架，為 $55 k^{0.5}$

對於下墊板（見下文 a））：

對於對稱的法蘭骨架，為 $87 k^{0.5}$

對於不對稱的法蘭骨架，為 $73 k^{0.5}$

對於普通船體結構鋼材， $k = 1$ ，

對於屈服應力為 315 N/mm^2 的鋼材， $k = 0.78$ ，和

對於屈服應力為 355 N/mm^2 的鋼材， $k = 0.72$ 。

對於下整體墊板的 $t_{\text{REN},d/t}$ ，在任何情況下都不應取小於它們所支撐的骨架的 $t_{\text{REN},d/t}$ 的值。

a) 下墊板

在計算下墊板腹板深度時，應適用下列：

- .1 可從污水底艙的傾斜艙壁與舷殼板的交點處垂直於下墊板的面板（見圖 3）量得下墊板的腹板深度。
- .2 如果在下墊板上安裝了加強材，可取腹板深度為舷殼與加強材之間、加強材之間或最外端加強材與墊板的面板之間的距離，取最大者。

b) 替代性防歪斜墊板

當 t_M 小於舷側骨架的 b) 部分 $t_{\text{REN},d/t}$ 時（見圖 2），可安裝符合第 2.3 段的防歪斜墊板，代替腹板深度與舷側骨架厚度比所要求的墊板，在這種情況中，在根據第 2.1.2 段確定 t_{REN} 時可不必考慮 $t_{\text{REN},d/t}$ 。

c) 緊靠防撞艙壁之後

對於直接位於防撞艙壁之後的舷側骨架，增加其尺寸以便其慣性力矩能避免舷側殼板的不必要柔性，當其腹板的建造厚度 t_{AB} 大於 $1.65 t_{REN,S}$ 時，可用厚度 $t_{REN,d/t}$ 的值通過以下公式求得 $t'_{REN,d/t}$ ：

$$t'_{REN,d/t} = \sqrt[3]{t_{REN,d/t}^2 t_{REN,S}}$$

式中 $t_{REN,S}$ 從第 3.3 段求得。

2.1.2.2 基於剪切強度檢查的厚度標準

如圖 1 中所定義的，如果舷側骨架底部的 t_M 等於或小於 t_{COAT} ，那麼， $t_{REN,S}$ 應按照第 3.3 段來確定。

2.1.2.3 更新的骨架腹板和下墊板的厚度

如果鋼材需要更新，被更新的腹板的厚度不應小於 t_{AB} 、 $1.2 t_{COAT}$ 或 $1.2 t_{REN}$ ，取最大者。

2.1.2.4 其他措施的標準

當 $t_{REN} < t_M \leq t_{COAT}$ 時，應採取包括下列所有措施：

- .1 噴砂，或等效者，和塗上保護層（見第 2.2 段），
- .2 當圖 1 所示的舷側骨架 A、B、C 和 D 區的任何部分出現上述狀態時，安裝防歪斜墊板（見第 2.3 段）；和
- .3 在換新檢驗和期間檢驗時，對保護層的維護要達到“如新”的狀態（即，未被損壞或生鏽）。

如果結構部件的厚度相對於建造時的厚度未出現厚度減少且保護層處於“如新”狀態（即，未被損壞或生鏽），則可以免除上述措施。

2.1.3 骨架和墊板的標準（彎曲檢查）

如果下墊板的長度或深度不能滿足附件 1 的要求，應根據第 3.4 段進行抗彎強度檢查，並根據要求對骨架和/或墊板進行更新或加強。

2.2 厚度測量、鋼材更新、噴砂和保護層

就鋼材更新、噴砂和保護層而言，規定了 A、B、C 和 D 四個區，如圖 1 所示。

對每個區都應進行有代表性的厚度測量，並應針對第 2.1 段的標準進行評估。

如果是整體墊板，當第 2.1 段的標準對 A 或 B 區不能滿足時，應適當對 A 和 B 區均進行鋼材更新、噴砂和塗保護層。

如果是分開的墊板，當第 2.1 段的標準對 A 區或 B 區不能滿足時，應適當對這些區的每個區進行鋼材更新、噴砂和塗保護層。

如果根據第 2.1 段的要求需要對 C 區進行鋼材更新，應同時對 B 區和 C 區進行。如果根據第 2.1 段的要求需要對 C 區進行噴砂和塗保護層，應同時對 B、C 和 D 區進行。

如果根據第 2.1 段的要求需要對 D 區進行鋼材更新，只需要對該區進行。如果根據第 2.1 段的要求需要對 D 區進行噴砂和塗保護層，應同時對 C 和 D 區進行。

如果主管機關或主管機關根據《安全公約》第 XI-1 章第 1 條的規定認可的某一船級社認為某區處於“如新”狀態（即，未損壞或生鏽），對原先更新或塗保護層的區可給予特殊的考慮。

如果採用基於第 2.1 段的更新厚度標準，一般情況下，塗的保護層應符合本組織適用的要求。

根據第 2.1 段的要求，如果有限的幾個舷側骨架和墊板表明需要對其全長的某部分塗上保護層，應適用下列標準：

.1 塗保護層的部分包括：

- 舷側骨架和墊板的腹板和面板，
- 舷側殼板的艙面、污水底艙和舷側艙板，如果適用，從舷側骨架的腹板起，寬度應不小於 100 mm。

.2 應採用環氧樹脂塗料或等效物。

在任何情況下，在使用塗料之前，對所有塗層的表面都要進行噴砂。

2.3 加強措施

加強措施由防歪斜墊板構成，位於舷側骨架的下部和中跨（見圖 4）。防歪斜墊板可位於每兩個骨架處，但下墊板和中跨墊板應安裝在任意一對骨架之間的一線上。

防歪斜墊板的厚度應不小於它們所連接的舷側骨架的建造厚度。

對於防歪斜墊板與舷殼骨架和殼板的連接，應採用雙面連續焊接。

2.4 焊接縫厚度

如果更新鋼部件，焊接應符合附件 1 第 7 段的要求。

2.5 點蝕與凹槽

如果點蝕的密度在面積上超過 15%（見圖 5），應進行厚度測量，對點蝕情況進行檢查。

在點蝕或凹槽處，最低可接受的剩餘厚度等於：

.1 對於骨架和墊板腹板及法蘭上的點蝕或凹槽，為建造時厚度的 75%；和

.2 對於附着在舷側骨架上的，且每側寬度超過 30 mm 的舷殼、底開艙和舷側艙板上的點蝕或凹槽，為建造時厚度的 70%。

3 強度檢查標準

一般情況下，應對荷載情況進行計算，並應對每個艙的前、中和後骨架進行強度檢查。中間位置的骨架所需的尺寸應在對上述骨架求得的結果之間通過線性內插法求得。

如果在某一艙內舷側骨架的尺寸不同，那麼，對具有相同尺寸的每組骨架的中骨架所要求的尺寸也應進行計算。對於中間位置骨架所要求的尺寸應從對計算過的骨架的結果之間通過線性內插法求得。

3.1 負荷方式

3.1.1 力

對舷側骨架截面 a) 和 b)（圖 2 所規定，如果是分開的下墊板，截面 b) 部分是下墊板的頂部）的強度檢查要考慮的力 $P_{fr,a}$ 和 $P_{fr,b}$ （以 kN 計）可由下式得出：

$$P_{fr,a} = P_S + \max (P_1, P_2)$$

$$P_{fr,b} = P_{fr,a} \frac{h-2h_B}{h}$$

式中：

P_s = 靜水壓力，以 kN 計

$$= sh \left(\frac{P_{s,U} + P_{s,L}}{2} \right), \text{ 當舷側骨架跨度 } h \text{ 上端 (見圖 1) 低於載重}$$

線時

$$= sh' \left(\frac{P_{s,L}}{2} \right), \text{ 當舷側骨架跨度 } h \text{ 上端 (見圖 1) 位於或高於載}$$

重線時

P_1 = 逆浪波浪壓力，以 kN 計

$$= sh \left(\frac{P_{1,U} + P_{1,L}}{2} \right)$$

P_2 = 橫浪波浪壓力，以 kN 計

$$= sh \left(\frac{P_{2,U} + P_{2,L}}{2} \right)$$

h, h_B = 分別如圖 1 和圖 2 中所定義的舷側骨架跨度和下墊板
長度，以 m 計

h' = 舷側骨架跨度 h 下端 (見圖 1) 與載重線之間的距離，以
m 計

s = 骨架間距，以 m 計

$p_{s,U}$, $p_{s,L}$ = 分別為舷側骨架跨度 h (見圖 1) 上端和下端處的靜水壓力, 以 kN/m^2 計

$p_{1,U}$, $p_{1,L}$ = 如下列第 3.1.2.1 段所定義的分別為舷側骨架跨度 h 上端和下端的波浪壓力, 以 kN/m^2 計

$p_{2,U}$, $p_{2,L}$ = 如下列第 3.1.2.2 段所定義的分別為舷側骨架跨度 h 上端和下端的波浪壓力, 以 kN/m^2 計

3.1.2 波浪壓力

3.1.2.1 波浪壓力 p_1

.1 水線及以下的波浪壓力 p_1 (kN/m^2), 由下式得出:

$$p_1 = 1.50 \left[p_{1E} + 135 \frac{B}{2(B+75)} - 1.2(T-z) \right]$$

$$p_{1E} = 3k_S C + k_f$$

.2 水線以上波浪壓力 p_1 (kN/m^2), 由下式得出:

$$p_1 = p_{1w1} - 7.50(z - T)$$

3.1.2.2 波浪壓力 p_2

.1 水線及以下波浪壓力 p_2 (kN/m^2), 由下式得出:

$$p_2 = 13.0 \left[0.5B \frac{50C_1}{2(B+75)} + C_B \frac{0.5B+k_f}{14} \left(0.7 + 2\frac{z}{T} \right) \right]$$

.2 水線以上波浪壓力 p_2 (kN/m^2), 由下式得出:

$$p_2 = p_{2w1} - 5.0(z - T)$$

式中：

$p_{1wl} = p_1$ 處於水線的海水波浪壓力

$p_{2wl} = p_2$ 處於水線的海水波浪壓力

L = 從船艏柱前側至舵柱後側夏季載重線上的距離，或如果沒有舵柱，至舵桿中心的距離，以為 m 計。 L 不應小於夏季載重線上最大長度的 96% 但不必大於 97%。

B = 最大型寬，以 m 計。

C_B = 相對於夏季載重線的吃水 d 船造型方形系數，基於長度 L 和型寬 B ，但所取的數值不應小於 0.6：

$$C_B = \frac{\text{吃水 } d \text{ 時的型排水量 [m}^3\text{]}}{LBd}$$

T = 最大設計吃水，以 m 計

C = 系數

$$= 10.75 - \left(\frac{300-L}{100} \right)^{1.5}, \text{ 當 } 90 \leq L \leq 300 \text{ m 時}$$

$$= 10.75, \text{ 當 } 300 < L \text{ 時}$$

$$C_r = \left(1.25 - 0.025 \frac{2k_r}{\sqrt{GM}} \right) k$$

$K = 1.2$ 無舦龍骨的船舶

$= 1$ 有舦龍骨的船舶

k_r = 橫搖回轉半徑。如果得不到 k_r 的實際數值

= 0.39 B，對於橫斷面上質量分佈均勻的船舶（如，重貨隔艙裝載或的輕泡貨均勻裝載）

= 0.25 B，對於橫斷面上質量分佈不均勻的船舶（如，重貨均勻分佈）

GM = 0.12B，如果 GM 實際數值不可得

Z = 從基線到負荷點的垂直距離，以 m 計

$k_s = C_B + \frac{0.83}{\sqrt{C_B}}$ 在 L 的後端

= C_B 從 L 的後端起在 0.2 L 與 0.6 L 之間

= $C_B + \frac{1.33}{C_B}$ 在 L 的前端

在上述規定的點之間， k_s 應為線性變化

$k_f = 0.8 C$

3.2 允許的應力

在舷殼骨架中允許的法向應力 σ_a 和剪應力 τ_a ，以 N/mm^2 計，由下式得出：

$$\sigma_a = 0.90\sigma_F$$

$$\tau_a = 0.40\sigma_F$$

式中 σ_F 是材料的最小上屈服應力，以 N/mm^2 計。

3.3 剪切強度檢查

如圖 1 所規定，如果舷側骨架下部中的 t_M 小於或等於 t_{COAT} ，應根據下列進行剪切強度檢查。

厚度 $t_{REN,S}$ (mm) 是對截面 a) 和 b) 的剪切強度檢查所獲得的厚度 $t_{REN,Sa}$ 和 $t_{REN,Sb}$ 之間的最大值 (見圖 2 和圖 3.1)，由下式得出，但所取的值不必超過 $0.75 t_{S12}$ 。

$$.1 \text{ 在截面 a) : } t_{REN,Sa} = \frac{1,000k_s P_{fr,a}}{d_a \sin \phi} t_a$$

$$.2 \text{ 在截面 b) : } t_{REN,Sb} = \frac{1,000k_s P_{fr,b}}{d_b \sin \phi} t_a$$

式中：

k_s = 剪力分配係數，所取的值等於 0.6

$P_{fr,a}$ ， $P_{fr,b}$ = 第 3.1.1 中規定的壓力

d_a ， d_b = 分別為截面 a) 和 b) 墊板和骨架深度 (見圖 2)，以 mm 計，如果是分開墊板 (非整體的)，所取的 d_b 值應是最小的腹板深度減去可能的扇形部分

ϕ = 骨架腹板與殼板之間的角度

t_a = 第 3.2 段所定義的允許剪應力，以 N/mm^2 計。

3.4 抗彎強度檢查

如果下墊板長度或深度不符合附件 1 中的要求，那麼，截面 a) 和 b) 處墊板和舷側骨架的實際截面模數 (cm^3) 不應小於：

.1 在截面 a) :

$$Z_a = \frac{1,000 P_{fr,a} h}{m_a \sigma_a}$$

.2 在截面 b) :

$$Z_b = \frac{1,000 P_{fr,b} h}{m_b \sigma_a}$$

式中 :

$P_{fr,a}$ = 第 3.1.1 中所定義的壓力

h = 圖 1 中所定義的舷側骨架跨度，以 m 計

σ_a = 第 3.2 中所定義的允許法向應力，以 N/mm^2 計

m_a , m_b = 表 2 中所定義的彎矩系數

應基於測量的厚度來計算，墊板和舷側骨架關於平行於附屬板的軸線的實際截面模數。對於預先計算的情況，可使用替代的厚度數值，但它們應不小於：

.1 t_{REN} ，對於腹板厚度；

.2 經主管機關根據《SOLAS 公約》第 XI-1 章第 1 條認可的某個船級社的法蘭和附屬板更新標準允許的最小厚度或具有同等安全水準的適用的主管機關國內標準允許的最小厚度。

附屬板寬度等於骨架間距，沿着在中跨 h 上的殼板測量。

如果截面 a) 和 b) 的實際截面模數小於 Z_a 和 Z_b 值，應更新或加強骨架和墊板以便取得實際截面模數值不小於 $1.2 Z_a$ 和 $1.2 Z_b$ 。

在這樣的情況中，如圖 1 所定義，更新或加強的法蘭應伸出舷側骨架的下部。

表 2 – 彎矩系數 m_a 和 m_b

	m_a	m_b		
		$h_B = 0.08 h$	$h_B = 0.1 h$	$h_B = 0.125 h$
經批准的在非均勻裝載狀態下運營的船舶的空艙	10	17	19	22
其他情況	12	20	22	26

註 1：非均勻裝載狀態係指在這樣的裝載狀態中，針對每個艙進行評估，最大和最低充裝比率之間的比率超過 1.20 的，並對不同的貨物密度作校正。

註 2：對於墊板長度 h_B 的中間值，系數 m_b 在表內數值之間通過線性內插法求得。

圖 1 - 舷側骨架的下部

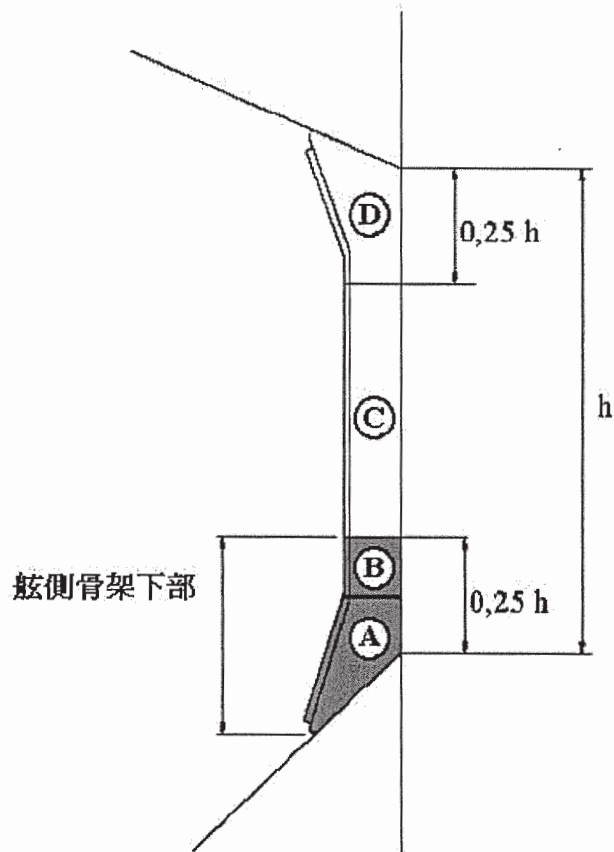
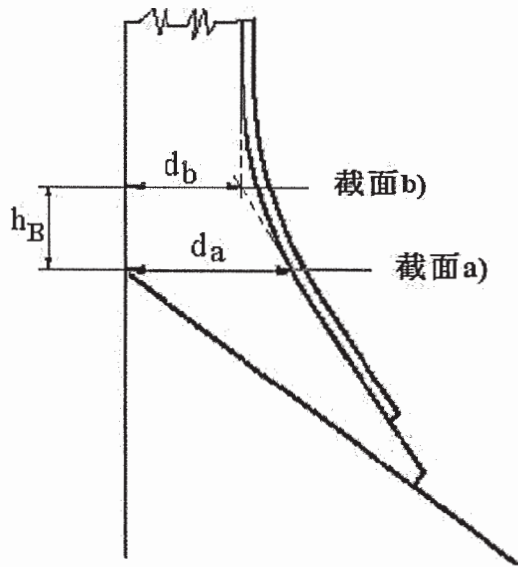


圖 2 – 截面 a) 和截面 b)



d_a = 下墊板腹板深度

d_b = 骨架腹板深度

h_B = 下墊板長度

圖 3 - 下墊板腹板深度定義

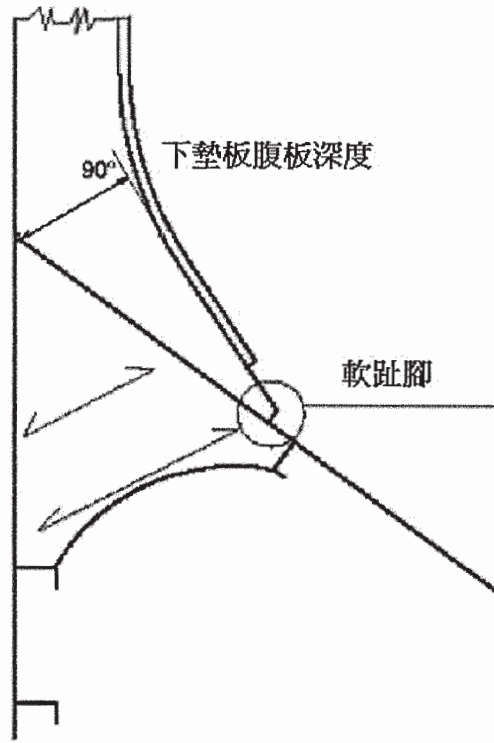


圖 4 – 防歪斜墊板

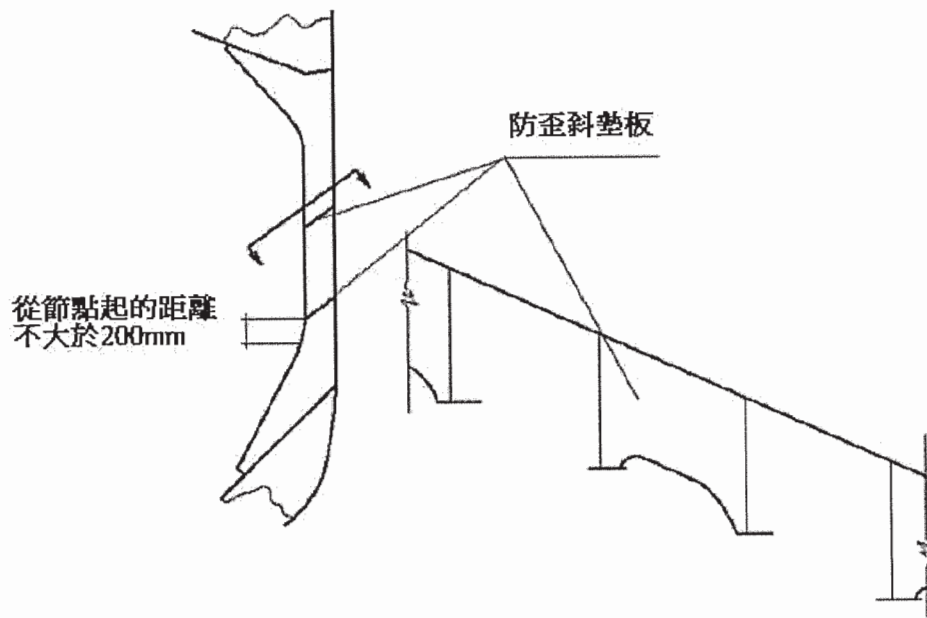
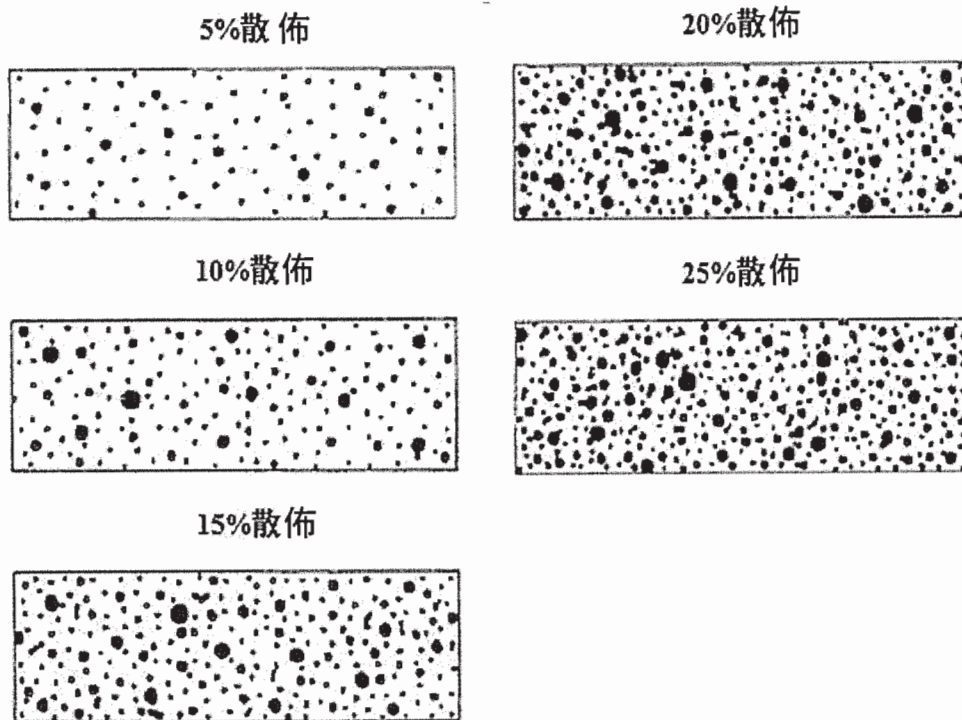


圖 5 – 蝕點密度圖 (從 5% 到 25% 的密度)



RESOLUTION MSC.168(79)
(adopted on 9 December 2004)

**STANDARDS AND CRITERIA FOR SIDE STRUCTURES OF
BULK CARRIERS OF SINGLE-SIDE SKIN CONSTRUCTION**

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO SOLAS chapter XII on Additional safety measures for bulk carriers, which the 1997 SOLAS Conference adopted with the aim of enhancing the safety of ships carrying solid bulk cargoes,

RECALLING FURTHER that, having recognized the need to further improve the safety of bulk carriers in all aspects of their design, construction, equipment and operation, it examined the results of various formal safety assessment (FSA) studies on bulk carrier safety,

RECOGNIZING that banning of alternate hold loading of heavy cargoes in full load condition for bulk carriers of single-side skin construction not meeting appropriate side structural strength requirements would contribute to improving the safety of these ships by reduction of shear forces and bending moments,

NOTING resolution MSC.170(79) by which it adopted, *inter alia*, the revised chapter XII of the 1974 SOLAS Convention, in particular regulation XII/14 – Restrictions from sailing with any hold empty, where reference is made to mandatory standards and criteria which a bulk carrier has to comply with in order to avoid the above-mentioned restrictions,

ACKNOWLEDGING that the International Association of Classification Societies (IACS) has issued the following relevant Unified Requirements:

S12 Rev.2.1 - Side structure in single side skin bulk carriers; and

S31 - Renewal criteria for side shell frames in single side skin bulk carriers not built in accordance with UR S12 Rev.1 or subsequent revisions,

CONSIDERING that the above IACS Unified Requirements embody respectively the standards and criteria necessary to ascertain whether regulation XII/14 of the Convention should apply to a particular bulk carrier, and, therefore, should form the basis of the said standards and criteria,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Ship Design and Equipment at its forty-seventh session,

1. ADOPTS, for the purposes of the application of regulation XII/14 of the Convention:

- .1 the Standards for side structures in single-side skin bulk carriers, set out in Annex 1 to the present resolution; and
 - .2 the Renewal criteria for side shell frames and brackets in single-side skin bulk carriers not built in accordance with the Standards for side structures in single-side skin bulk carriers, set out in Annex 2 to the present resolution;
2. INVITES Contracting Governments to the Convention to note that the annexed Standards and Renewal criteria will take effect on 1 July 2006 upon the entry into force of the revised chapter XII of the Convention;
3. REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the annexed Standards and Renewal criteria to all Contracting Governments to the Convention;
4. FURTHER REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the annexed Standards and Renewal criteria to all Members of the Organization which are not Contracting Governments to the Convention.

ANNEX 1

STANDARDS FOR SIDE STRUCTURES IN SINGLE-SIDE SKIN BULK CARRIERS**1 Application**

For the purpose of SOLAS regulation XII/14, these requirements define the minimum required standards for the side structures within the cargo area of single-side skin bulk carriers of 150 m in length and upwards carrying solid bulk cargoes having a density of 1,780 kg/m³ and above, for them not to be subject to restrictions from sailing with any hold empty.

2 Scantlings of side structures

2.1 The thickness of the side shell plating and the section modulus and shear area of side frames shall be determined according to the criteria of a classification society which is recognized by the Administration in accordance with the provisions of SOLAS regulation XI-1/1, or with applicable national standards of the Administration which provide an equivalent level of safety.

2.2 The scantlings of side hold frames immediately adjacent to the collision bulkhead shall be increased in order to prevent excessive imposed deformation on the shell plating. As an alternative, supporting structures shall be fitted which maintain the continuity of forepeak stringers within the foremost hold.

3 Minimum thickness of frame webs

The thickness of frame webs within the cargo area shall not be less than $t_{w,min}$, in mm, given by:

$$t_{w,min} = C(7.0 + 0.03L)$$

where:

C = 1.15 for the frame webs in way of the foremost hold;
1 for the frame webs in way of other holds.

L = the distance, in m, on the summer load waterline from the fore side of stem to the after side of the rudder post, or the centre of the rudder stock if there is no rudder post. L shall not be less than 96%, and need not be greater than 97%, of the extreme length on the summer load waterline but need not be taken greater than 200 m.

4 Lower and upper brackets

4.1 The thickness of the frame lower brackets shall not be less than the greater of t_w and $t_{w,min} + 2$ mm, where t_w is the fitted thickness of the side frame web. The thickness of the frame upper bracket shall not be less than the greater of t_w and $t_{w,min}$.

4.2 The section modulus SM of the frame and bracket or integral bracket, and associated shell plating, at the locations shown in figure 1, shall not be less than twice the section modulus SM_F required for the frame midspan area.

4.3 The dimensions of the lower and upper brackets shall not be less than those shown in figure 2.

4.4 Structural continuity with the upper and lower end connections of side frames shall be ensured within topside and hopper tanks by connecting brackets as shown in figure 3. The brackets shall be stiffened against buckling according to the criteria of a classification society which is recognized by the Administration in accordance with the provisions of SOLAS regulation XI-1/1, or with applicable national standards of the Administration which provide an equivalent level of safety.

4.5 The section moduli of the side longitudinals and sloping bulkhead longitudinals which support the connecting brackets shall be determined with the span taken between transverses according to the requirements of a classification society which is recognized by the Administration in accordance with the provisions of SOLAS regulation XI-1/1, or with applicable national standards of the Administration which provide an equivalent level of safety. Where other arrangements are adopted at the discretion of the Administration or a recognized classification society, the section moduli of the side longitudinals and sloping bulkhead longitudinals shall be determined according to the applicable criteria for the purpose of effectively supporting the brackets.

5 Side frame sections

5.1 Frames shall be fabricated symmetrical sections with integral upper and lower brackets and shall be arranged with soft toes.

5.2 The side frame flange shall be curved (not knuckled) at the connection with the end brackets. The radius of curvature shall not be less than r, in mm, given by:

$$r = \frac{0.4b_f^2}{t_f}$$

where b_f and t_f are the flange width and thickness of the brackets, respectively, in mm. The end of the flange shall be sniped.

5.3 In ships less than 190 m in length, mild steel frames may be asymmetric and fitted with separate brackets. The face plate or flange of the bracket shall be sniped at both ends. Brackets shall be arranged with soft toes.

5.4 The frame web thickness ratio of frames shall not exceed the following values:

- .1 60 k^{0.5} for symmetrically flanged frames;
- .2 50 k^{0.5} for asymmetrically flanged frames;

where:

- k = 1 for ordinary hull structural steel;
- k = 0.78 for steel with yield stress of 315 N/mm²; and
- k = 0.72 for steel with yield stress of 355 N/mm².

The outstanding flange shall not exceed $10 k^{0.5}$ times the net flange thickness.

6 Tripping brackets

In way of the foremost hold, side frames of asymmetrical section shall be fitted with tripping brackets at every two frames, as shown in figure 4.

7 Weld connections of frames and end brackets

7.1 Double continuous welding shall be adopted for the connections of frames and brackets to side shell and hopper and top-side tank plating and web to face plates.

7.2 For this purpose, the weld throat shall be (see figure 1):

- .1 0.44 t in zone “a”;
- .2 0.4 t in zone “b”;

where t is the thinner of the two connected members.

7.3 Where the hull form is such as to prohibit an effective fillet weld, edge preparation of the web of frame and bracket may be required, in order to ensure the same efficiency as the weld connection stated above.

8 Minimum net thickness of side shell plating

The thickness of side shell plating located between the hopper and top-side tank shall not be less than $t_{p,min}$, in mm, given by:

$$t_{p,min} = \sqrt{L}$$

Figure 1

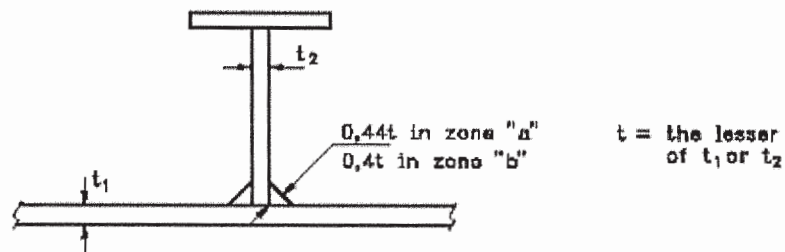
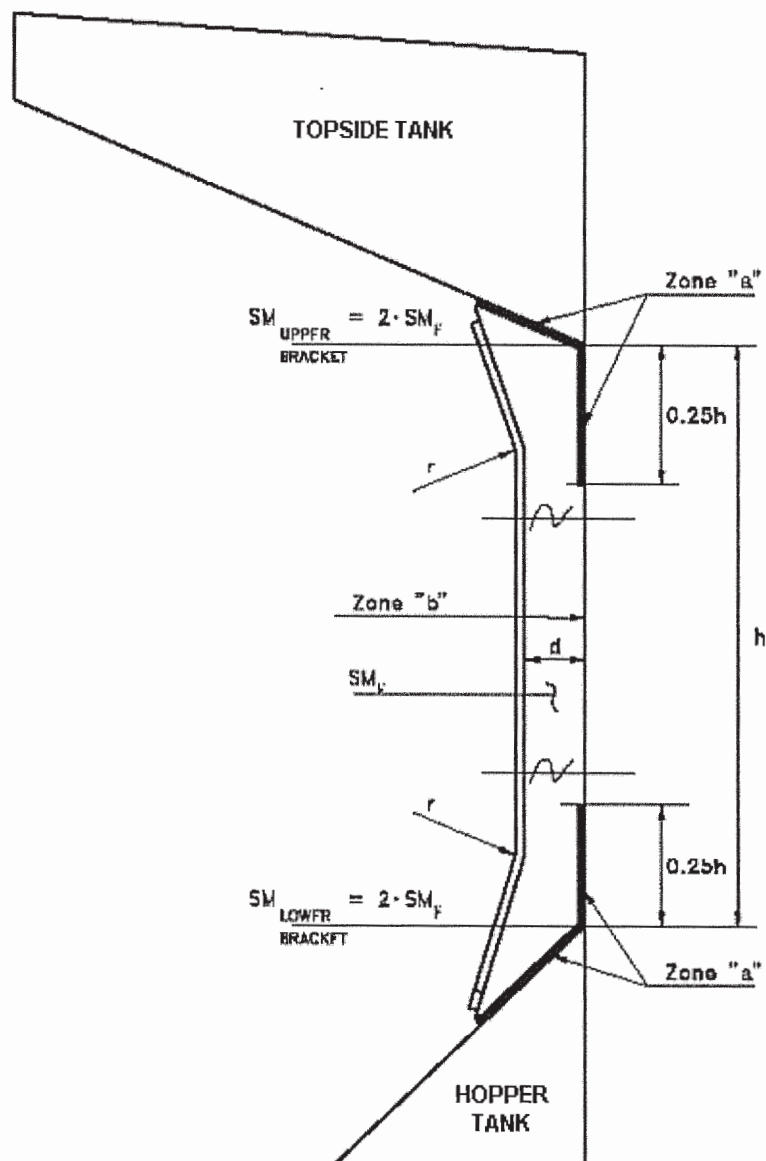


Figure 2

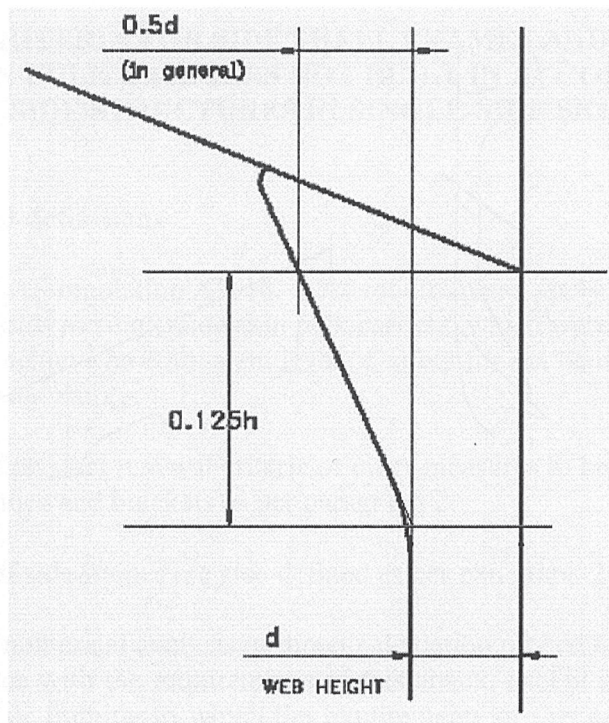


Figure 3

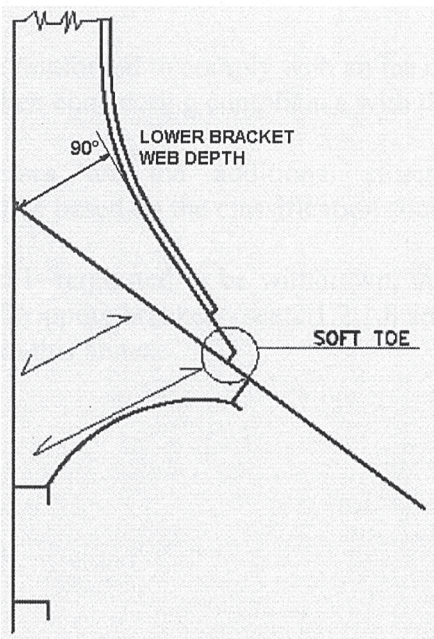
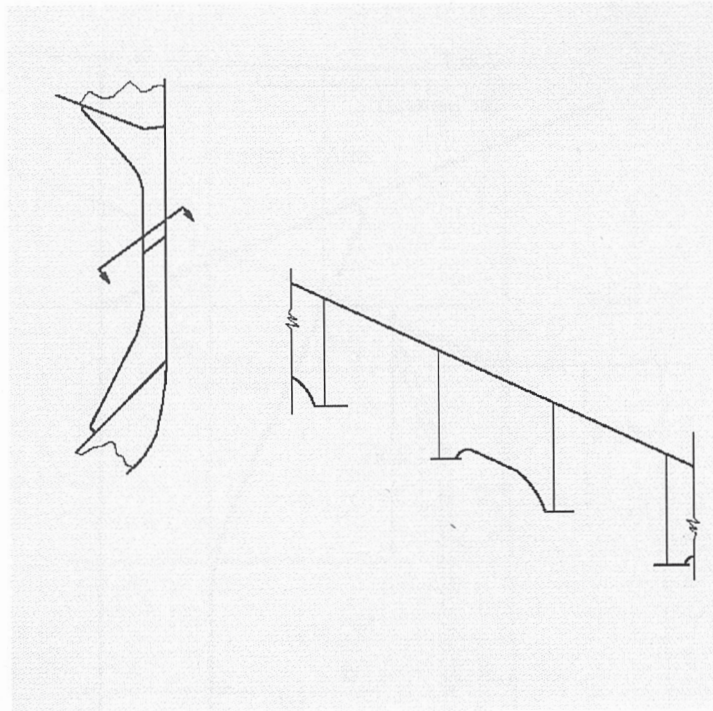


Figure 4 - Tripping brackets to be fitted in way of foremost hold



ANNEX 2

RENEWAL CRITERIA FOR SIDE SHELL FRAMES AND BRACKETS IN SINGLE-SIDE SKIN BULK CARRIERS NOT BUILT IN ACCORDANCE WITH THE STANDARDS FOR SIDE STRUCTURES IN SINGLE-SIDE SKIN BULK CARRIERS**1 Application and definitions**

For the purpose of SOLAS regulation XII/14, these requirements apply to the side shell frames and brackets of cargo holds in single-side skin bulk carriers, which were not built in accordance with annex 1, but shall achieve an equivalent level of safety for not being subject to restrictions when sailing with any hold empty.

These requirements define steel renewal criteria or other measures to be taken for the webs and flanges of side shell frames and brackets as per paragraph 2.

Reinforcing measures of side frames are also defined as per paragraph 2.3.

Finite element or other numerical analysis or direct calculation procedures cannot be used as an alternative to compliance with the requirements of this annex, except in cases of unusual side structure arrangements or framing to which the requirements of this annex cannot be directly applied.

Assessment of compliance with these requirements is to be carried out by the date on which the ship reaches 10 years of age and at each subsequent intermediate and renewal survey.

1.1 Ice strengthened ships

1.1.1 Where bulk carriers are reinforced to comply with an ice class notation, the intermediate frames shall not be included when considering compliance with this annex.

1.1.2 The renewal thicknesses for the additional structure required to meet the ice strengthening notation shall be based on the classification society's requirements.

1.1.3 If the ice class notation is requested to be withdrawn, the additional ice strengthening structure, with the exception of tripping brackets (see 2.1.2.1.b and 2.3), shall not be considered to contribute to compliance with this annex.

2 Renewal or other measures

2.1 Criteria for renewal or other measures

2.1.1 Symbols used in 2.1

t_M	=	thickness as measured, in mm
t_{REN}	=	thickness at which renewal is required (2.1.2)
$t_{REN,d/t}$	=	thickness criteria based on d/t ratio (2.1.2.1)
$t_{REN,S}$	=	thickness criteria based on strength (2.1.2.2)
t_{COAT}	=	$0.75 t_{S12}$
t_{S12}	=	thickness, in mm, as required by annex 1 in paragraph 3 for frame webs and in paragraph 4 for upper and lower brackets
t_{AB}	=	thickness as built, in mm
t_C	=	See table 1 below

Table 1 - t_C values, in mm

Ship's length L, in m	Holds other than No.1		Hold No.1	
	Span and upper brackets	Lower brackets	Span and upper brackets	Lower brackets
≤100	2	2.5	2	3
150	2	3	3	3.5
≥ 200	2	3	3	4

Note: For intermediate ship lengths, t_C is obtained by linear interpolation between the above values.

2.1.2 Criteria for webs (shear and other checks)

The webs of side shell frames and brackets shall be renewed when the measured thickness (t_M) is equal to, or less than, the thickness (t_{REN}) as defined below:

t_{REN} is the greatest of:

- .1 $t_{COAT} - t_C$
- .2 $0.75 t_{AB}$
- .3 $t_{REN,d/t}$
- .4 $t_{REN,S}$ (where required by 2.1.2.2)

2.1.2.1 Thickness criteria based on d/t ratio

Subject to b) and c) below, $t_{REN,d/t}$ is given by the following equation:

$$t_{REN,d/t} = (\text{web depth in mm})/R$$

where:

R = for frames

65 $k^{0.5}$ for symmetrically flanged frames

55 $k^{0.5}$ for asymmetrically flanged frames

for lower brackets (see a) below):

87 $k^{0.5}$ for symmetrically flanged frames

73 $k^{0.5}$ for asymmetrically flanged frames

k = 1 for ordinary hull structural steel;

k = 0.78 for steel with yield stress of 315 N/mm²; and

k = 0.72 for steel with yield stress of 355 N/mm².

In no instance shall $t_{REN,d/t}$ for lower integral brackets be taken as less than $t_{REN,d/t}$ for the frames they support.

a) Lower brackets

In calculating the web depth of the lower brackets, the following shall apply:

- .1 The web depth of lower bracket may be measured from the intersection of the sloped bulkhead of the hopper tank and the side shell plate, perpendicularly to the face plate of the lower bracket (see figure 3).
- .2 Where stiffeners are fitted on the lower bracket plate, the web depth may be taken as the distance between the side shell and the stiffener, between the stiffeners or between the outermost stiffener and the face plate of the brackets, whichever is the greatest.

b) Tripping bracket alternative

When t_M is less than $t_{REN,d/t}$ at section b) of the side frames (see figure 2), tripping brackets in accordance with 2.3 may be fitted as an alternative to the requirements for the web depth to thickness ratio of side frames, in which case $t_{REN,d/t}$ may be disregarded in the determination of t_{REN} in accordance with 2.1.2.

c) Immediately abaft collision bulkhead

For the side frames located immediately abaft the collision bulkhead, whose scantlings are increased in order that their moment of inertia is such as to avoid undesirable flexibility of the side shell, when their web as built thickness t_{AB} is greater than $1.65t_{REN,S}$, the thickness $t_{REN,d/t}$ may be taken as the value $t'_{REN,d/t}$ obtained from the following equation:

$$t'_{REN,d/t} = \sqrt[3]{t_{REN,d/t}^2 t_{REN,S}}$$

where $t_{REN,S}$ is obtained from 3.3.

2.1.2.2 Thickness criteria based on shear strength check

Where t_M in the lower part of side frames, as defined in figure 1, is equal to, or less than, t_{COAT} , $t_{REN,S}$ shall be determined in accordance with 3.3.

2.1.2.3 Thickness of renewed webs of frames and lower brackets

Where steel renewal is required, the renewed webs shall be of a thickness not less than t_{AB} , $1.2t_{COAT}$ or $1.2t_{REN}$, whichever is the greatest.

2.1.2.4 Criteria for other measures

When $t_{REN} < t_M \leq t_{COAT}$, measures shall be taken, consisting of all the following:

- .1 sand blasting, or equivalent, and coating (see 2.2);
- .2 fitting tripping brackets (see 2.3), when the above condition occurs for any of the side frame zones A, B, C and D, shown in figure 1; and
- .3 maintaining the coating in “as new” condition (i.e. without breakdown or rusting) at renewal and intermediate surveys.

The above measures may be waived if the structural members show no thickness diminution with respect to the as-built thicknesses and coating is in “as new” condition (i.e. without breakdown or rusting).

2.1.3 Criteria for frames and brackets (bending check)

Where the length or depth of the lower bracket does not meet the requirements in annex 1, a bending strength check in accordance with 3.4 shall be carried out and renewals or reinforcements of frames and/or brackets effected as required therein.

2.2 Thickness measurements, steel renewal, sand blasting and coating

For the purpose of steel renewal, sand blasting and coating, four zones A, B, C and D are defined, as shown in figure 1.

Representative thickness measurements shall be taken for each zone and shall be assessed against the criteria in 2.1.

In case of integral brackets, when the criteria in 2.1 are not satisfied for zone A or B, steel renewal, sand blasting and coating, as applicable, shall be done for both zones A and B.

In case of separate brackets, when the criteria in 2.1 are not satisfied for zone A or B, steel renewal, sand blasting and coating shall be done for each one of these zones, as applicable.

When steel renewal is required for zone C according to 2.1, it shall be done for both zones B and C. When sand blasting and coating is required for zone C according to 2.1, it shall be done for zones B, C and D.

When steel renewal is required for zone D according to 2.1, it needs only to be done for this zone. When sand blasting and coating is required for zone D according to 2.1, it shall be done for both zones C and D.

Special consideration may be given to zones previously renewed or re-coated, if found in “as new” condition (i.e., without breakdown or rusting) by the Administration or a classification society which is recognized by the Administration in accordance with the provisions of SOLAS regulation XI-1/1.

When adopted, on the basis of the renewal thickness criteria in 2.1, in general coating shall be applied in compliance with the requirements of the organization, as applicable.

Where, according to the requirements in 2.1, a limited number of side frames and brackets are shown to require coating over part of their length, the following criteria apply:

- .1 The part to be coated includes:
 - the web and the face plate of the side frames and brackets,
 - the hold surface of side shell, hopper tank and topside tank plating, as applicable, over a width not less than 100 mm from the web of the side frame.
- .2 Epoxy coating or equivalent shall be applied.

In all cases, all the surfaces to be coated shall be sand blasted prior to coating application.

2.3 Reinforcing measures

Reinforcing measures are constituted by tripping brackets, located at the lower part and at midspan of side frames (see figure 4). Tripping brackets may be located at every two frames, but lower and midspan brackets shall be fitted in line between alternate pairs of frames.

The thickness of the tripping brackets shall be not less than the as-built thickness of the side frame webs to which they are connected.

Double continuous welding shall be adopted for the connections of tripping brackets to the side shell frames and shell plating.

2.4 Weld throat thickness

In case of steel renewal, the welded connections shall comply with paragraph 7 of annex 1.

2.5 Pitting and grooving

If pitting intensity is higher than 15% in area (see figure 5), thickness measurement shall be taken to check pitting corrosion.

The minimum acceptable remaining thickness in pits or grooves is equal to:

- .1 75% of the as-built thickness, for pitting or grooving in the frame and brackets webs and flanges; and
- .2 70% of the as-built thickness, for pitting or grooving in the side shell, hopper tank and topside tank plating attached to the side frame, over a width up to 30 mm from each side of it.

3 Strength check criteria

In general, loads shall be calculated and strength checks shall be carried out for the aft, middle and forward frames of each hold. The scantlings required for frames in intermediate positions shall be obtained by linear interpolation between the results obtained for the above frames.

When scantlings of side frames vary within a hold, the required scantlings shall also be calculated for the mid-frame of each group of frames having the same scantlings. The scantlings required for frames in intermediate positions shall be obtained by linear interpolation between the results obtained for the calculated frames.

3.1 Load model

3.1.1 Forces

The forces $P_{fr,a}$ and $P_{fr,b}$, in kN, to be considered for the strength checks at sections a) and b) of side frames (specified in figure 2; in the case of separate lower brackets, section b) is at the top of the lower bracket), are given by:

$$P_{fr,a} = P_S + \max(P_1, P_2)$$

$$P_{fr,b} = P_{fr,a} \frac{h - 2h_B}{h}$$

where:

P_s = still water pressure force, in kN

= $sh \left(\frac{P_{s,U} + P_{s,L}}{2} \right)$ when the upper end of the side frame span h (see figure 1)
is below the load water line

= $sh' \left(\frac{P_{s,L}}{2} \right)$ when the upper end of the side frame span h (see figure 1)
is at or above the load water line

P_1 = wave pressure force, in kN, in head seas

= $sh \left(\frac{P_{1,U} + P_{1,L}}{2} \right)$

P_2 = wave pressure force, in kN, in beam seas

= $sh \left(\frac{P_{2,U} + P_{2,L}}{2} \right)$

h, h_B = side frame span and lower bracket length, in m, defined in figures 1 and 2, respectively

h' = distance, in m, between the lower end of side frame span h (see figure 1) and the load waterline

s = frame spacing, in m

$P_{s,U}, P_{s,L}$ = still water pressure, in kN/m^2 , at the upper and lower end of the side frame span h (see figure 1), respectively

$P_{1,U}, P_{1,L}$ = wave pressure, in kN/m^2 , as defined in 3.1.2.1, below for the upper and lower end of the side frame span h , respectively

$P_{2,U}, P_{2,L}$ = wave pressure, in kN/m^2 , as defined in 3.1.2.2, below for the upper and lower end of the side frame span h , respectively

3.1.2 Wave pressure

3.1.2.1 Wave pressure p_1

- .1 The wave pressure p_1 , in kN/m^2 , at and below the waterline is given by:

$$p_1 = 1.50 \left[p_{11} + 135 \frac{B}{2(B + 75)} - 1.2(T - z) \right]$$

$$p_{11} = 3k_s C + k_f$$

- .2 The wave pressure p_1 , in kN/m^2 , above the water line is given by:

$$p_1 = p_{1wl} - 7.50 (z - T)$$

3.1.2.2 Wave pressure p_2

- .1 The wave pressure p_2 , in kN/m^2 , at and below the waterline is given by:

$$p_2 = 13.0 \left[0.5B \frac{50C_r}{2(B + 75)} + C_B \frac{0.5B + k_f}{14} \left(0.7 + 2 \frac{z}{T} \right) \right]$$

- .2 The wave pressure p_2 , in kN/m^2 , above the water line is given by:

$$p_2 = p_{2wl} - 5.0 (z - T)$$

where:

p_{1wl} = p_1 wave sea pressure at the waterline

p_{2wl} = p_2 wave sea pressure at the waterline

L = the distance, in m, on the summer load waterline from the fore side of stem to the after side of the rudder post, or the centre of the rudder stock if there is no rudder post. L shall not be less than 96%, and need not be greater than 97%, of the extreme length on the summer load waterline.

B = greatest moulded breadth, in m

C_B = moulded block coefficient at draught d corresponding to summer load waterline, based on length L and moulded breadth B , but not to be taken less than 0.6:

$$C_B = \frac{\text{moulded displacement [m}^3\text{] at draught } d}{LBd}$$

T = maximum design draught, in m

C = coefficient

$$= 10.75 - \left(\frac{300 - L}{100} \right)^{1.5} \quad \text{for } 90 \leq L \leq 300 \text{ m}$$

$$= 10.75 \quad \text{for } 300 < L$$

$$C_r = (1.25 - 0.025 \frac{2k_r}{\sqrt{GM}}) k$$

k = 1.2 for ships without bilge keel

= 1 for ships with bilge keel

k_r = roll radius of gyration. If the actual value of k_r is not available

= 0.39 B for ships with even distribution of mass in transverse section (e.g. alternate heavy cargo loading or homogeneous light cargo loading)

= 0.25 B for ships with uneven distribution of mass in transverse section (e.g. homogenous heavy cargo distribution)

GM = 0.12 B if the actual value of GM is not available

z = vertical distance, in m, from the baseline to the load point

$$k_s = C_B + \frac{0.83}{\sqrt{C_B}} \quad \text{at aft end of } L$$

$$= C_B \quad \text{between } 0.2 L \text{ and } 0.6 L \text{ from aft end of } L$$

$$= C_B + \frac{1.33}{C_B} \quad \text{at forward end of } L$$

Between the above specified points, k_s shall be varied linearly

$$k_f = 0.8 C$$

3.2 Allowable stresses

The allowable normal and shear stresses σ_a and τ_a , in N/mm^2 , in the side shell frames are given by:

$$\sigma_a = 0.90 \sigma_F$$

$$\tau_a = 0.40 \sigma_F$$

where σ_F is the minimum upper yield stress, in N/mm^2 , of the material.

3.3 Shear strength check

Where t_M in the lower part of side frames, as defined in figure 1, is equal to, or less than, t_{COAT} , shear strength check shall be carried out in accordance with the following.

The thickness $t_{REN,S}$, in mm, is the maximum between the thicknesses $t_{REN,Sa}$ and $t_{REN,Sb}$ obtained from the shear strength check at sections a) and b) (see figure 2 and 3.1) given by the following, but need not be taken in excess of $0.75t_{S12}$.

$$.1 \quad \text{at section a):} \quad t_{REN,Sa} = \frac{1,000 k_s P_{fr,a}}{d_a \sin \phi \tau_a}$$

$$.2 \quad \text{at section b):} \quad t_{REN,Sb} = \frac{1,000 k_s P_{fr,b}}{d_b \sin \phi \tau_a}$$

where:

k_s = shear force distribution factor, to be taken equal to 0.6

$P_{fr,a}, P_{fr,b}$ = pressure forces defined in 3.1.1

d_a, d_b = bracket and frame web depth, in mm, at sections a) and b), respectively (see figure 2); in case of separate (non integral) brackets, d_b shall be taken as the minimum web depth deducting possible scallops

ϕ = angle between frame web and shell plate

τ_a = allowable shear stress, in N/mm^2 , defined in 3.2.

3.4 Bending strength check

When the lower bracket length or depth do not comply with requirements in annex 1, the actual section modulus, in cm^3 , of the brackets and side frames at sections a) and b) shall be not less than:

- .1 at section a):

$$Z_a = \frac{1,000 P_{fr,a} h}{m_a \sigma_a}$$

- .2 at section b):

$$Z_b = \frac{1,000 P_{fr,a} h}{m_b \sigma_a}$$

where:

- $P_{fr,a}$ = pressure force defined in 3.1.1
 h = side frame span, in m, defined in figure 1
 σ_a = allowable normal stress, in N/mm^2 , defined in 3.2
 m_a, m_b = bending moment coefficients defined in table 2

The actual section modulus of the brackets and side frames shall be calculated about an axis parallel to the attached plate, based on the measured thicknesses. For pre-calculations, alternative thickness values may be used, provided they are not less than:

- .1 t_{REN} , for the web thickness;
 .2 the minimum thicknesses allowed by the renewal criteria for flange and attached plating of a classification society which is recognized by the Administration in accordance with the provisions of SOLAS regulation XI-1/1, or by applicable national standards of the Administration which provide an equivalent level of safety.

The attached plate breadth is equal to the frame spacing, measured along the shell at midspan h .

If the actual section moduli at sections a) and b) are less than the values Z_a and Z_b , the frames and brackets shall be renewed or reinforced in order to obtain actual section moduli not less than $1.2 Z_a$ and $1.2 Z_b$, respectively.

In such a case, renewal or reinforcements of the flange shall be extended over the lower part of side frames, as defined in figure 1.

Table 2 – Bending moment coefficients m_a and m_b

	m_a	m_b		
		$h_B = 0.08 h$	$h_B = 0.1 h$	$h_B = 0.125 h$
Empty holds of ships approved to operate in non homogeneous loading conditions	10	17	19	22
Other cases	12	20	22	26
Note 1: Non-homogeneous loading condition means a loading condition in which the ratio between the highest and the lowest filling ratio, evaluated for each hold, exceeds 1.2 corrected for different cargo densities.				
Note 2: For intermediate values of the bracket length h_B , the coefficient m_b is obtained by linear interpolation between the table values.				

Figure 1 – Lower part of side frames

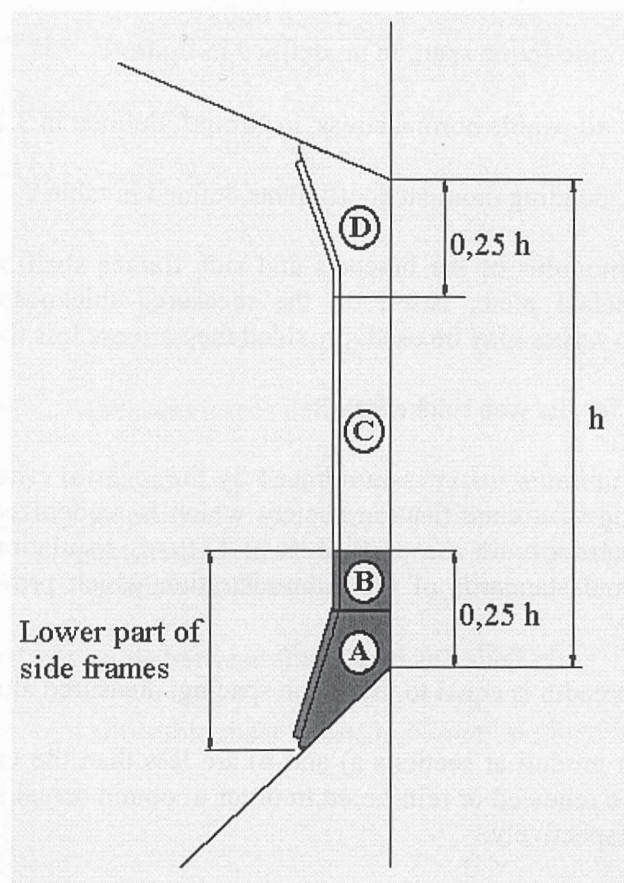


Figure 2 – Sections a) and b)

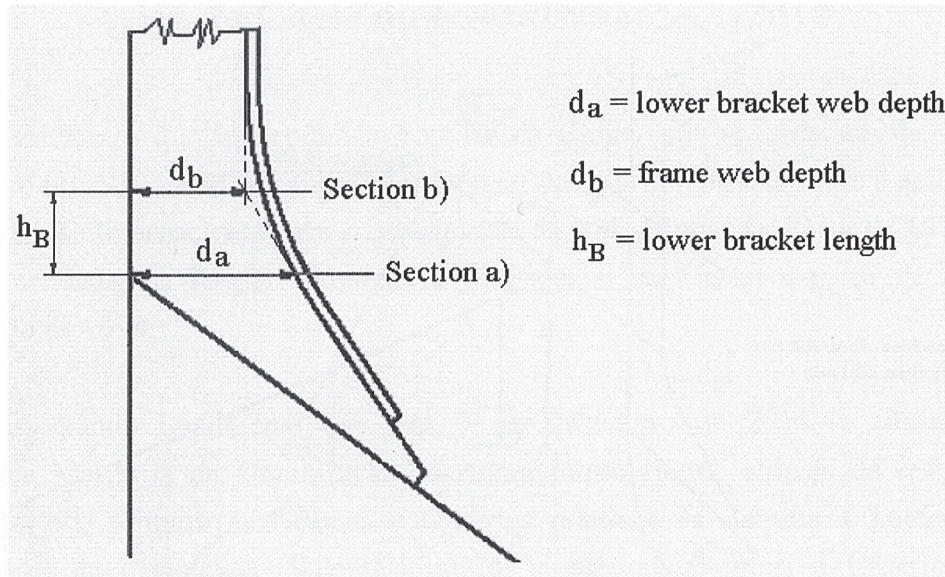


Figure 3 – Definition of the lower bracket web depth

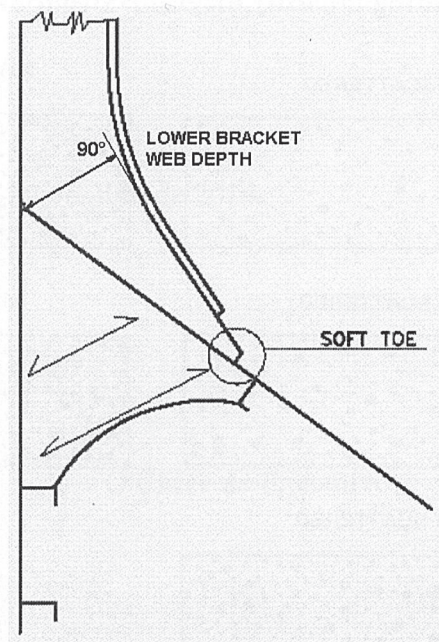


Figure 4 – Tripping brackets

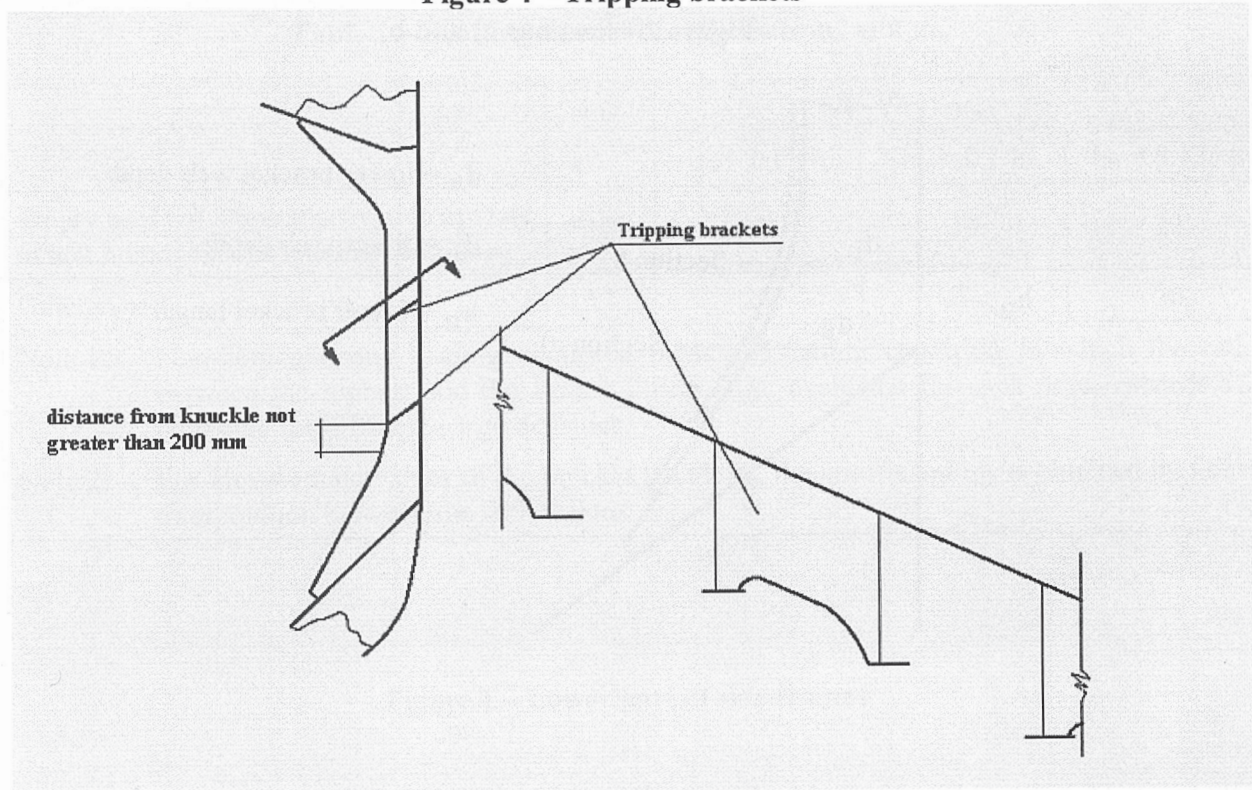
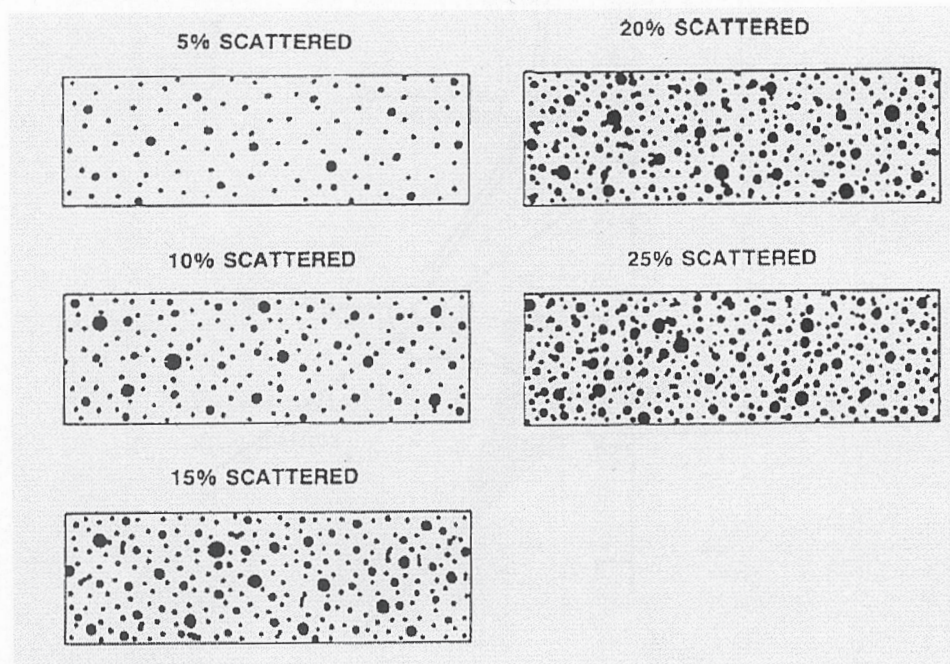


Figure 5 - Pitting intensity diagrams (from 5% to 25% intensity)



第 105/2014 號行政長官公告

Aviso do Chefe do Executivo n.º 105/2014

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零五年五月二十日透過第MSC.195(80)號決議通過了《國際船舶安全操作和防止污染管理規則》(國際安全管理(ISM)規則)的修正案，該修正案自二零零九年一月一日起對澳門特別行政區生效；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.195(80)號決議的中文及英文文本。

二零一四年十一月二十七日發佈。

行政長官 崔世安

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 20 de Maio de 2005, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.195(80), adoptou emendas ao Código Internacional de Gestão para a Segurança da Exploração dos Navios e para a Prevenção da Poluição (Código Internacional de Gestão para a Segurança (ISM)), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau, a partir de 1 de Janeiro de 2009;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.195(80), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 27 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

第 MSC.195 (80) 號決議

(2005 年 5 月 20 日通過)

通過國際船舶安全操作和防止污染管理規則

(國際安全管理 (ISM) 規則) 的修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會的職能的第 28 (b) 條，

注意到第 A.741 (18) 號決議：大會以該決議通過了《國際船舶安全營運和防止污染管理規則》(國際安全管理規則)(以下簡稱 ISM 規則)；根據《1974 國際海上人命安全公約》(SOLAS)(以下稱《公約》)第 IX 章，該規則成爲強制性規則，

還注意到關於 ISM 規則的修正程序的《公約》第 VIII (b) 條和第 IX/1.1 條，

在其第八十次會議上，審議了按照第 VIII (b) (i) 條提出並散發的 ISM 規則修正案，

1. 按照《公約》第 VIII (b) (iv) 條，通過了 ISM 規則的修正案，其文本列於本決議的附件；

2. 按照《公約》第 VIII (b) (vi) (2) (bb) 條確定，該修正案將於 2008 年 7 月 1 日視爲已被接受，除非在該日期之前有超過三分之一的《公約》締約政府或其合計商船噸位不小於世界商船總噸位 50% 的締約政府書面通知反對該修正案；

3. 請締約政府注意，按照《公約》第 VIII (b) (vii) (2) 條，該修正案在按上述第 2 段獲接受後於 2009 年 1 月 1 日生效；
4. 要求秘書長，按照《公約》第 VIII (b) (v) 條，將本決議和附件中所含修正案的核證無誤的副本轉交《公約》所有締約政府；
5. 進一步要求秘書長將本決議及其附件轉交非《公約》締約政府的本組織會員國。

附件

對國際船舶安全操作和防止污染管理規則

（國際安全管理（ISM）規則）的修正案

附錄

符合證明、安全管理證書、臨時符合證明和臨時安全管理證書的格式

1 在符合證明和臨時符合證明中的“公司名稱和地址”之後，增加以下列內容：

“公司識別號.....”

2 在安全管理證書和臨時安全管理證書中的“公司名稱和地址”之後，增加以下列內容：

“公司識別號.....”

RESOLUTION MSC.195(80)
(adopted on 20 May 2005)

**AMENDMENTS TO THE INTERNATIONAL MANAGEMENT CODE FOR THE
SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION
(INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution A.741(18), by which the Assembly adopted the International Management Code for the Safe Operation of Ships and for Pollution Prevention (International Safety Management (ISM) Code) (hereinafter referred to as “the ISM Code”), which has become mandatory under chapter IX of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation IX/1.1 of the Convention concerning the procedure for amending the ISM Code,

HAVING CONSIDERED, at its eightieth session, amendments to the ISM 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 ISM Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 July 2008, 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2009 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE INTERNATIONAL MANAGEMENT CODE FOR THE
SAFE OPERATION OF SHIPS AND FOR POLLUTION PREVENTION
(INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE)

Appendix

Forms of the Document of Compliance, the Safety Management Certificate,
the Interim Document of Compliance and the Interim Safety Management Certificate

1 After “Name and address of the Company” in the forms of the Document of Compliance and Interim Document of Compliance, the following is added:

“Company identification number

2 After “Name and address of the Company” in the form of the Safety Management Certificate and Interim Safety Management Certificate, the following is added:

“Company identification number

第 106/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零六年五月十八日透過第MSC.208(81)號決議通過了《向代表主管機關的組織授權的指南》(第A.739(18)號決議)的修正案，該修正案自二零一零年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.208(81)號決議的中文及英文文本。

二零一四年十一月二十七日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 106/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 18 de Maio de 2006, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.208(81), adoptou emendas às Directrizes para a Autorização de Organizações que Actuam em Nome da Administração (Resolução A.739(18)), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau desde 1 de Julho de 2010;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.208(81), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 27 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

海安會第 MSC.208 (81) 號決議

(2006 年 5 月 18 日通過)

通過向代表主管機關的組織授權的指南

(第 A.739 (18) 號決議) 的修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職能的第 28 (b) 條，

注意到大會第 A.739 (18) 號決議，憑藉這一決議，大會通過了根據《1974 年國際海上人命安全公約》(以下簡稱“公約”)第 XI-1 章具有強制性的《向代表主管機關的組織進行授權的指南》(以下簡稱“指南”)，

還注意到關於《指南》修正程序的《公約》第 VIII (b) 條和第 XI-1/1 條，

在其第八十一次會議上，審議了按照《公約》第 VIII (b) (i) 條提出並散發的《指南》修正案，

1. 按照《公約》第 VIII (b) (iv) 條，通過《向代表主管機關的組織進行授權的指南》修正案，其正文列於本決議之附件；
2. 按照《公約》第 VIII (b) (vi) (2) (bb) 條，決定該修正案將於 2010 年 1 月 1 日視為已被接受，除非在此日期之前，有超過三分之一的《公約》締約政府或其合計商船總噸位不少於世界商船總噸位 50% 的締約政府通知反對該修正案；

3. 請締約政府注意，按照《公約》第 VIII (b) (vii) (2) 條，該修正案將在按照上述第 2 段被接受後於 2010 年 7 月 1 日生效；
4. 要求秘書長遵照《公約》第 VIII (b) (v) 條，將本決議和附件中所列修正案正文的核證無誤副本送發《公約》的所有締約政府；
5. 進一步要求秘書長將本決議及其附件的副本送發非《公約》締約政府的本組織會員。

附件

向代表主管機關的組織授權的指南

（第 A.739（18）號決議）的修正案

附錄 1

代表主管機關的被認可組織的最低標準

在原有的第 2 款之後增加以下新的第 2 - 1 款：

“2 - 1 該組織應僅使用專門的驗船師和審核員履行法定檢驗和發證的職能，這些驗船師和審核員為專職受僱於該組織、具有合適資格、受過培訓和得到授權的人士，在其工作職權範圍內完成其僱主負責的所有任務和活動。在該組織負責代表船旗國發證的同時，它可以按照第 A.789（19）號決議把無線電檢驗分包給非專門檢驗人員。”

RESOLUTION MSC.208(81)
(adopted on 18 May 2006)

**ADOPTION OF AMENDMENTS TO THE GUIDELINES FOR THE AUTHORIZATION
OF ORGANIZATIONS ACTING ON BEHALF OF THE ADMINISTRATION
(RESOLUTION A.739(18))**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution A.739(18) by which the Assembly adopted the Guidelines for the authorization of organizations acting on behalf of the Administration (herewith referred to as “the Guidelines”), which have become mandatory under chapter XI-1 of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation XI-1/1 of the Convention concerning the procedure for amending the Guidelines,

HAVING CONSIDERED, at its eighty-first session, amendments to the Guidelines, 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 Guidelines for the authorization of organizations acting on behalf of the Administration, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 2010, 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2010 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE GUIDELINES FOR THE AUTHORIZATION OF
ORGANIZATIONS ACTING ON BEHALF OF THE ADMINISTRATION
(RESOLUTION A.739(18))**

APPENDIX 1

**MINIMUM STANDARDS FOR RECOGNIZED ORGANIZATIONS ACTING
ON BEHALF OF THE ADMINISTRATION**

The following new paragraph 2-1 is added after the existing paragraph 2:

“2-1 The organization should perform survey and certification functions of a statutory nature by the use of only exclusive surveyors and auditors, being persons solely employed by the organization, duly qualified, trained and authorized to execute all duties and activities incumbent upon their employer, within their level of work responsibility. While still remaining responsible for the certification on behalf of the flag State, the organization may subcontract radio surveys to non-exclusive surveyors in accordance with the relevant provisions of resolution A.789(19).”

第 107/2014 號行政長官公告

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零七年十月十二日透過第MSC.241(83)號決議通過了《國際安全運輸船載包裝輻照核燃料、鈾和高水平放射性廢物規則》(輻照核燃料規則)修正案，該修正案自二零零九年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的MSC.241(83)號決議的中文及英文文本。

二零一四年十一月二十七日發佈。

行政長官 崔世安

Aviso do Chefe do Executivo n.º 107/2014

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 12 de Outubro de 2007, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.241(83), adoptou emendas ao Código Internacional para a Segurança do Transporte de Combustível Nuclear Irradiado, de Plutónio e de Resíduos Altamente Radioactivos em Barris a Bordo de Navios (Código INF), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau desde 1 de Julho de 2009;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.241(83), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 27 de Novembro de 2014.

O Chefe do Executivo, *Chui Sai On*.

海安會第MSC.241 (83) 號決議

(2007年10月12日通過)

通過《國際安全運輸船載包裝輻照核燃料、鈾和高水平放射性廢物規則》(輻照核燃料規則) 修正案

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職能的第28 (b) 條，

注意到第MSC.88 (71) 號決議，委員會以該決議通過了《船上安全運輸包裝乏核燃料、鈾和高放射性廢物國際規則》(以下簡稱“乏核燃料規則”)，該規則已在《1974年國際海上人命安全公約》(以下簡稱“公約”) 下具有強制性，

還注意到公約中關於《乏核燃料規則》修正程序的第VIII (b) 和第VII/14.1條，

在其第83屆會議上，審議了根據公約第VIII (b) (i) 條建議並散發的《乏核燃料規則》修正案，

1. 根據公約第VIII (b) (iv) 條，通過了《乏核燃料規則》修正案，修正案正文列於本決議的附件；
2. 根據公約第VIII (b) (vi) (2) (bb) 條，決定上述修正案將於2009年1月1日視為已被接受，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不少於世界商船總噸位50%的締約國政府對修正案提出反對意見；

3. 請《安全公約》締約國政府注意，根據公約第VIII (b) (vii) (2) 條，修正案在按上述第2段被接受後將於2009年7月1日生效；
4. 要求秘書長依據公約第VIII (b) (v) 條將本決議及載於附件的修正案正文的核證無誤副本發給公約的所有締約國政府；
5. 進一步要求秘書長將本決議及其附件的副本發給不是公約締約國政府的本組織會員。

附件

《國際安全運輸船載包裝輻照核燃料、鈾和
高水平放射性廢物規則》（輻照核燃料規則）修正案

第2章

破艙穩性

- 1 在第2.2.1段，用“B-1部分”代替“B部分”。
- 2 在第2.2.2和第2.3.2段，在段落末尾新增下面一句話：
“對於長度不足80m的船舶，須使用在80m時的分艙指數R。”

RESOLUTION MSC.241(83)**Adopted on 12 October 2007****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE CARRIAGE OF PACKAGED IRRADIATED NUCLEAR FUEL, PLUTONIUM AND HIGH-LEVEL RADIOACTIVE WASTES ON BOARD SHIPS (INF CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.88(71) by which it adopted the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (hereinafter referred to as “the INF Code”), which has become mandatory under chapter VII of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation VII/14.1 of the Convention concerning the procedure for amending the INF Code,

HAVING CONSIDERED, at its eighty-third session, amendments to the INF 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 INF Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 January 2009, 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 note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 July 2009 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE CARRIAGE OF
PACKAGED IRRADIATED NUCLEAR FUEL, PLUTONIUM AND HIGH-LEVEL
RADIOACTIVE WASTES ON BOARD SHIPS (INF CODE)**

**CHAPTER 2
DAMAGE STABILITY**

- 1 In paragraph 2.2.1, the words “Part B” are replaced by the words “Part B-1”.
- 2 In paragraphs 2.2.2 and 2.3.2, the following new sentence is added at the end of the paragraphs:

“For ships less than 80 m in length, the subdivision index R at 80 m shall be used.”

二零一四年十一月二十七日於行政長官辦公室

辦公室主任 譚俊榮

Gabinete do Chefe do Executivo, aos 27 de Novembro de
2014. — O Chefe do Gabinete, *Alexis, Tam Chon Weng.*



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