

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污染；
- .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 防護及 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
丙酮氰醇	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
丙烯酸酰胺溶液 (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-氨基基呱嗪	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	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						
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	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)
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	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	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
丁酸	2820	B	S/P	3	2G	Cont.	No			Yes	R	No	A	Y1	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	N5	No	15.16.1
環烷酸鈣 (礦物油中)		A	P	3	2G	Open	No			Yes	O	No	A		No	
樟腦油	1130	B	S/P	2	2G	Cont.	No		IIA	No	O	F	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	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	

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)
(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 道防 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	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)	
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	F-T	B	Z	No	15.12	
1,3-二氯丙烷		B	S/P	2	2G	Cont.	No	T1	IIA	No	F-T	B		No	15.12	
1,3-二氯丙烯	2047	B	S/P	2	2G	Cont.	No	T2	IIA	No	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	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	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	A	N2	No		
二乙基胺	1154	C	S/P	3	2G	Cont.	No	T2	IIA	No	R	F-T	A	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	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	環境控制	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)	
								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 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)
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 貨物名稱	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'' 類	i''' 60°C 閃點	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)
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	T2	IIB	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	T3	IIA	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	T3	IIB	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	T2	IIA	Yes	O	F-T	A	N2	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	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 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 級	電氣設備 類	電氣設備 60°C 閃點	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)
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	Y1	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	N1	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	呼眼 吸睛 道防 及護		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	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)
													D			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''		j	k	l	m	n	o
									電氣設備	類						
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	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	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	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	No	16.2.9	
正丙醇胺		C	S/P	3	2G	Open	No			Yes	O	No	A,D	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	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	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	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	呼眼	特殊要求	
環己醇									60°C 閃點					呼吸	(見第 15 章)	
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	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		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		Yes	O	No	A		No		
松香皂 (不均化的溶液)		B	P	3	2G	Open	No		Yes	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 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	B	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	R	F-T	A,D		No		
四氫化萘		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	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	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	C	T	A,C		No	15.12, 15.17, 15.19	
磷酸三丁酯		B	P	3	2G	Open	No				Yes	O	No	A		No		
1, 2, 4-三氯苯	2321	B	S/P	2	2G	Cont.	No				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	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	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	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	特殊要求	
環己醇									60°C 閃點							(見第 15 章)
1, 1, 2-三氯基-1, 2, 2-三乙基氟		C	P	3	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	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	Cont.	No	T2	IIA	Yes	C	B		No	15.12.3, 15.19	
三乙醇胺		D	S	3	2G	Open	No		IIA	Yes	O	A	N1	No		
三乙胺	1296	C	S/P	2	2G	Cont.	No	T2	IIA	No	R	B	N2	E	15.12	
三乙苯		A	P	2	2G	Open	No			Yes	O	A		No	15.19.6	
三乙撐四胺	2259	D	S	3	2G	Open	No	T2	IIA	Yes	O	A	N1	No		
三乙基亞磷酸鹽	2323		S	3	2G	Cont.	No			No	R	A,D		No	15.12.1	
三甲基醋酸		D	S	3	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	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	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	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。**

本證書的有效期限截止日為_____

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)

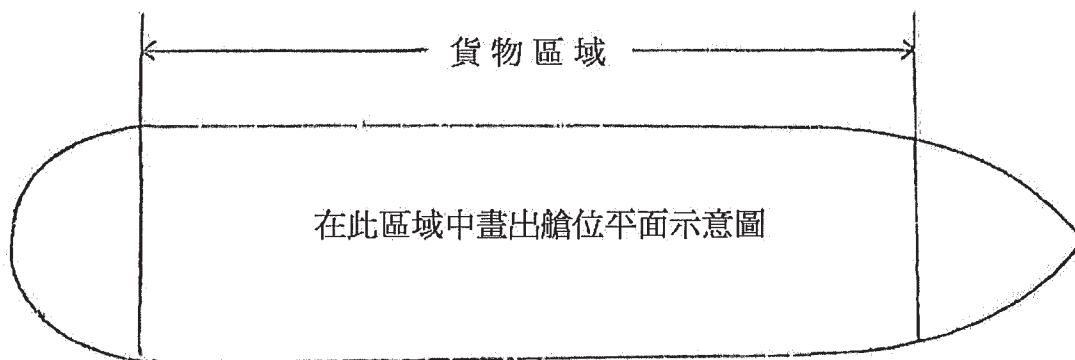
(發證官員的簽字和/或發證機關的鋼印)

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 - f 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			o	
												n	o	p		
Product Name	UN Number	Pollution Category	Hazards	Ship Type	Tank Type	Tank Vents	Tank Environment Control	Electrical Equipment			Flashpoint 60°C	Vapour Detection	Fire Protection	Materials of Construction	Respiratory and Eye Protection	Special Requirements (see Chapter 15)
								Class	Group	Class						
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		NE		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	N1	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	N1	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	Y1	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	N2
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	N1
Diethylbenzene	2049	C	P	3	2G	Cont.	No			No	R	F	A	No
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	N2
Diethyl ether	1155	III	S	2	1G	Cont.	Inert	T4	IIIB	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	N2

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'	ii	iii	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		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		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		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		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		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		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-Propanolamine		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''	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	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	-	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	O	F	B	N4, Z	No	15.13, 16.6.1, 16.6.2
Sulphur (molten)	2448	III	S	3	1G	Open	Vent or pad (gas)	T3	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	j	k	l	m	n	o
Trimethyl phosphite	2329	S	S	3	2G	Cont.	No		No	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
Vinyl acetate	1301	C	S/P	3	2G	Cont.	No	T2	IIA	No	O	F	A	No
Vinyl ethyl ether	1302	C	S/P	2	1G	Cont.	Inert	T3	IIB	No	C	F-T	A	N6
Vinylidene chloride	1303	B	S/P	2	2G	Cont.	Inert	T2	IIA	No	R	F-T	B	N5
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
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)

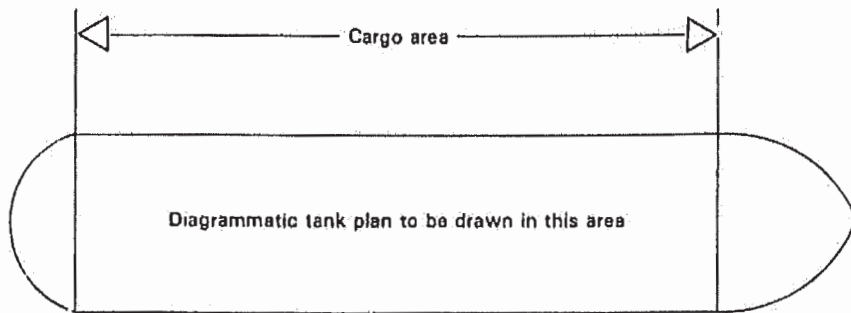
.....
(Signature of official issuing the
Certificate and/or seal of
issuing authority)

**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)
