Sample 13a

DG/TS/126B (Rev.1/21)

STANDARD FIRE SAFETY REQUIREMENTS FOR TANK WAGONS USED FOR CONVEYANCE OF CATEGORY 5 DANGEROUS GOODS

运送第5类危险品的油缸车的标准消防安全规定

ENGINE (引擎)

1. The engine of the vehicle shall be the type of compression ignition (Diesel).
车辆的引擎须为压缩点火式(柴油)。

2. The exhaust system of the engine shall be situated wholly in front of the fire resisting shield and the discharge shall be arranged to offside of the vehicle.
引擎的排气系统须全部位于防火板前及须由车旁右面排气。

3. Any fuel pipe which form a part of a gravity feed system, a quick action cut-off valve shall be fitted to the fuel feed pipe in an easily accessible and clearly marked position.
任何成为重力供应系统部分的燃料管须安装一个快速切断掣，其位置须方便接近及清楚标明。

FUEL TANK (油箱)

4. The fuel tank shall be:-
油箱须 :-

   i) complied with a double cases construction;
   符合双重包箱构造；
   ii) screened from the body by a fire resisting shield;
   加装防火板使其与车身隔离；
   iii) protected from blows by strong steel guards or by the frame of the chassis of the vehicle; and
   以坚固钢板或车身底盘架作保护以抵挡碰撞；及
   iv) fitted with a lock to the fuel tank lid.
   在入油箱盖处加锁。

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CARGO TANK (油缸)

5. The maximum carrying load of a tank wagon shall not exceed the permitted gross vehicle weight and the maximum permitted axle weights permitted on roads set out in the Road Traffic Ordinance (Cap. 374), Laws of Hong Kong.
油缸车的总重量或车轴重量不可超过香港法例第374章《道路交通条例》的可容许限度。

6. The cargo tank shall be inspected by a competent person[1] at an interval of every 5 years. The relevant tank survey report should include the required design and inspection information in this requirement and should be submitted to this Department upon new licence application and subsequently at a 5-year interval.
油缸须由合资格人士[2]每五年检查一次。相关的油缸检测报告须包括本规定所要求的设计及检测数据，并于申请新牌照时向本处呈交，其后每五年呈交一次。

7. The thickness of the cargo tank shall follow the provision stipulated below:
油缸的厚度须根据下列的规定：

		Diameter of tank 油缸直径 ≤ 1.8m	Diameter of tank 油缸直径 > 1.8m
Minimum thickness of tank 油缸最少厚度	Austenitic stainless steels 奥氏体不锈钢	2.5 mm	3 mm
	Austenitic-ferritic stainless steels 奥氏-铁素体不锈钢	3 mm	3.5 mm
	Other steels 其他钢铁	3 mm	4 mm
	Aluminium alloys 铝合金	4 mm	5 mm
	Pure aluminium of 99.8% 99.8%的纯铝	6 mm	8mm

[1] Competent Person refers to a Registered Professional Engineer in the "Marine & Naval Architecture Discipline" or "Mechanical Discipline" or an "Authorized Surveyor" under the Merchant Shipping (Local Vessels) Ordinance (Cap 548) or the "Boiler Inspector" under Boilers and Pressure Vessels Ordinance (Cap 56).
[2] 合资格人士指「轮机暨造船学界别」或「机械界别」的注册专业工程师，或《商船(本地船只)条例》(第548章)下获委任的「特许验船师」，或《锅炉及压力容器条例》(第56章)下获委任的「锅炉检验师」。

8. The cargo tank shall be secured on the vehicle.
油缸须稳固地装在车辆上。

9. The rear end of the cargo tank shall be protected by a robust steel bumper which is situated at least 75 mm away from the rear of the nearmost part of the tank; and extended on each side of the vehicle to at least the maximum width of the cargo tank and tank fittings.
距离油缸后端至少75毫米处须安装坚固钢铁保险杆作保护，其长度至少须与该油缸及其装置的最大阔度相等。

10. Except during the operation of filling or emptying any tank, all filling pipes and discharging pipes shall be closed at all times.
除入油或放油操作外，所有放油管及入油管须在任何时间紧闭。

11. The cargo tank feed pipes shall be fitted with a quick action shut off valve in a position easily accessible and clearly marked in English and Chinese characters.
在油缸输油喉管容易接近的地方，须安装一个快速关闭活门，并以中英文显著标明。

12. Every draw-off pipe shall be fitted with an internal valve and a strong securely screwed cap.
每一抽油管须安装内活门及坚固的紧密螺旋盖。

13. Any cargo tank with a total capacity exceeding 5,000 liters shall be divided into several enclosed compartments. Each compartment shall have a capacity of not exceeding 5,000 liters and be fitted with a lock to the fuel tank lid. For tank wagon operating on Hong Kong Island, the capacity of each compartment shall not exceed 3,600 liters.
任何油缸容量超过 5,000 升须分为多个密封间格，每个密封间格的容量不得超过 5,000 升，并须在入油盖处加锁。对于在港岛使用的油缸车，每个密封间格的容量不得超过3,600 升。

14. Every fuel tank lid of the cargo tank shall be closed and locked to avoid spillage during conveyance of dangerous goods.
当运送危险品时，油缸上的每一个油盖须紧闭及上锁以防止倾泻。

15. Tank wagon carrying flammable liquids shall be equipped with an earth cable. Such cable shall be connected to the earth terminal of the receiving equipment during transfer of flammable liquids.
运送易燃液体的油缸车须配备地线。在输送易燃液体时，该地线须与接收装备的地线端连接。

16. Power-driven pumps for product off-loading shall be fitted with clearly marked and easily accessible emergency controls forward of the fire resisting shield.
卸货用电动泵的紧急掣须安装在防火板前容易接近的地方，并以明显的标记标明。

17. Piping and/or fittings shall not be projected beyond any sides of the tank wagon. All piping, equipment, hoses, valves, accessories and outlet valves shall be adequately protected against accidental damage or interference. Outlet valves shall be projected by (a) the bumper if the valves are located at the rear of the vehicle; (b) a substantial protective metal bar if located at the side.
所有喉管及/或装置不得伸延出油缸车的四周。所有喉管、装备、卷喉、活门、其他附件及输出活门须妥为保护以防意外损毁或阻碍。输出活门如 (甲) 位于车尾则须以保险杆加以保护； (乙) 如位于车旁则须以坚硬金属条加以保护。

18. The chassis, cargo tank, piping and associated equipment shall be adequately bonded.
车身底盘、油缸、喉管及有关装置须紧密连接。

19. The body chassis, fuel tank and fittings shall be strongly constructed of non-combustible materials.
车身底盘，油箱及装置须用坚固的不可燃物质建造。

FIRE RESISTING SHIELD (防火板)

20. The engine, fuel tank, electrical generator, batteries switch gear, fuses and exhaust system of the tank wagon shall be situated in front of a fire resisting shield and effectively screened from the cargo tank by the fire resisting shield.
油缸车的引擎、油箱、发电机、电池开关掣、保险丝及排气系统须位于防火板前并有效地与油缸隔离。

21. The installation of fire resisting shield shall be projected upwards to a point above the topmost level of the cargo tank, and downwards to a point not more than 300 mm from the ground. (The steel cab can be deemed to constitute part of the shield).
防火板的安装须伸延稍高于油缸顶及向下则离地不超过 300 毫米。(钢铁制驾驶室可视作防火板的一部份)。

22. Any aperture made to allow any piping to pass through the fire resisting shield (i.e. air brake tubing) shall be so sealed as to prevent the passage of inflammable vapour through the shield.
任何穿过防火板的管孔(如空气制动掣管)须密封以防易燃气体通过该防火板。

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23. Any windows in the fire resisting shield shall be wire glazed in fixed metal frame and not capable of being opened.
任何在防火板上的窗户须为不可开启的金属线玻璃窗外包固定金属框。

24. A clear space shall be maintained at least 150 mm between the back of the fire resisting shield and the front of the cargo tank.
防火板与油缸须至少保持有 150 毫米的空隙距离。

ELECTRICAL SYSTEM (电力系统)

25. All electric wiring shall be heavily insulated and resistant to abrasion and chemical action. The wiring fixed at positions behind the fire resisting shield shall be run in flexible metal conduit.
所有电线须高度绝缘及能抵抗磨损和具有抗化性能。位于防火板后的电线须套以金属软管。

26. A safety cut-off switch shall be fitted in the driver's cab to isolate the electrical system from the battery.
安全断流掣须安装于驾驶室内以便切断电力系统与电池间的电流。

27. Only electric lights shall be used on the tank wagon. No fire, artificial light or article capable of causing fire or explosion shall be carried on the tank wagon.
油缸车内只可使用电灯。可引致火警或爆炸的火焰，人造灯光或对象则不得装载在油缸车。

28. The voltage of the electric current shall not exceed sixty volts.
电流的电压不得超过六十伏特。

IDENTIFICATION (识别)

29. "NO SMOKING"，"不准吸烟" notice of not less than 120 mm in height shall be prominently displayed and this instruction shall be complied with at all times by the driver and attendants on the vehicle.
须在明显位置悬挂 "NO SMOKING"，"不准吸烟" 告示牌一个，字体高度须不少于120毫米。司机及跟车须任何时间遵守此项规定。

30. Portable "NO SMOKING"，"不准吸烟" notices of not less than 120 mm in height shall be carried on the vehicle for display when filling or discharging process.
车上须备有 "NO SMOKING"，"不准吸烟" 手提告示牌，字体高度须不少于120毫米，以便在注入或卸下程序时挂出。

31. A notice of not less than120 mm in height in English and Chinese characters shall be displayed at the front and rear of the vehicle as appropriate :-
车辆前后须悬挂适当的中英文告示牌，字体高度须不少于120 毫米:-

Front： DANGEROUS GOODS CAT. 5 KEEP CLEAR
前： 第5类危险品，勿近。
Rear： DANGEROUS GOODS KEEP CLEAR
后： 危险品，勿近。

EQUIPMENTS ATTACHED (附加工具)

32. 2 nos. of dry powder fire extinguishers, each with capacity of at least 2 kg and not exceeding 9 kg, shall be provided one on each side of the vehicle and accessible from outside the cab. The fire extinguishers shall be kept in efficient working order at all times and be inspected by a registered Fire Service Installation Contractor at least once in every 12 months.
车辆须设置2具合适干粉灭火筒，每具不小于2公斤及不多于9公斤，每边车身各一具，并可由驾驶室外轻易取得。该等灭火筒任何时间须保持有效工作性能，及最少每十二个月由注册消防装置承办商检查一次。

GENERAL OBSERVATION (一般情况)

33. Only one category of dangerous goods shall be conveyed by the vehicle at any one time.
无论在任何时间，该车每次只准运送一种类别的危险品。

34. Tyres shall be the 'anti-static' type, the electrical resistance of which shall be in accordance with BS 2050 or equivalent.
车胎须为 "抗静电" 式，其电阻须符合英国标准 BS 2050 或同等规格。

35. Delivery hose(s) for delivery of Category 5 dangerous goods, if provided, shall be in accordance with BS EN 1360, BS EN 13483, BS EN 13765, BS EN 1761, EN ISO 1825 or equivalent.
如车辆附有输油软喉，该软喉须符合国际标准 BS EN 1360, BS EN 13483, BS EN 13765, BS EN 1761, EN ISO 1825 或同等规格。

36. The tank wagon conveying Category 5 dangerous goods in liquid form shall be attended by at least one person in addition to the driver.
油缸车运送第5类危险品的液体时，除司机外，须最少有一人看管。

Attention: This shall not apply to a tank wagon equipped with a 2-way radio communication system.
注意： 此项规定对于装有收发两用无线电通讯系统的油缸车不适用。

37. Built-in type quick shut-off valves shall be provided for each tank compartment of tank wagon. Except during the operation of filling or emptying any tank, the quick shut-off valves shall be closed and locked at all times.
油缸车须为各个油缸分隔间提供内置式快速关断阀。除入油或放油操作外，该快速关断阀须在任何时间紧闭及上锁。

38. Dangerous goods placards as per UN standard and incorporated with Chinese characters for the essential wordings will be provided at the rear of tank wagons. The colour scheme and character size will follow the attached drawing.
油缸车须在车尾装上危险告示牌。告示牌须符合联合国标准，并且写有必要的中文警告字句。告示牌的颜色及字体大小须一如附图所示。

N.B.
附注

Notices referred to at paragraphs 29, 30 and 31 above shall be made of reflective white or silver letters and characters on a red background. English letters with height and width in the proportion of 2 : 1 (e.g. 120 mm letters with 60 mm width, 75 mm letters with 36 mm width). Each letter shall be reasonably spaced, a 6 mm spacing is recommended for 120 mm letters and 3 mm spacing for 75 mm letters.
以上第 29, 30 及 31 段所述的‘告示’须用反光的白色或银色中英文字写在红底板上。英文字母的高度和阔度的比例须为 2：1 (120 毫米的字体须为 60 毫米阔；75 毫米的字体须 36 毫米阔)字母间须有适当的距离。120 毫米的字体其字母须相距 6 毫米，而 75 毫米的字 体则须相距 3 毫米。

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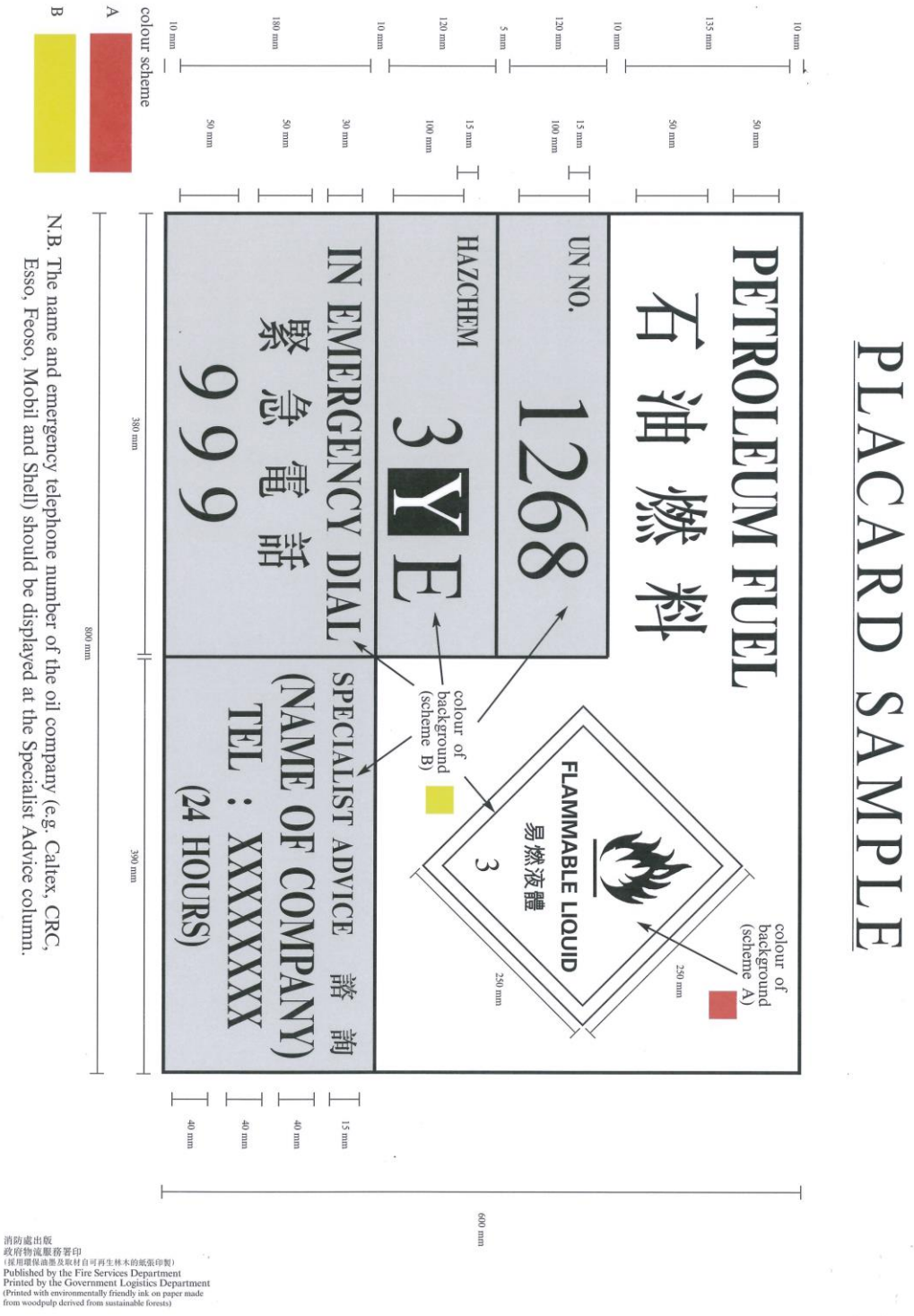
Sample 13a

Attached drawing - a placard sample for Cat.5 DG
附图 - 一个第 5 类危险品告示牌的样本



消防處出版
政府物流服務署印
(採用環保油墨及取材自可再生林木的紙張印製)
Published by the Fire Services Department
Printed by the Government Logistics Department
(Printed with environmentally friendly ink on paper made from woodpulp derived from sustainable forests)

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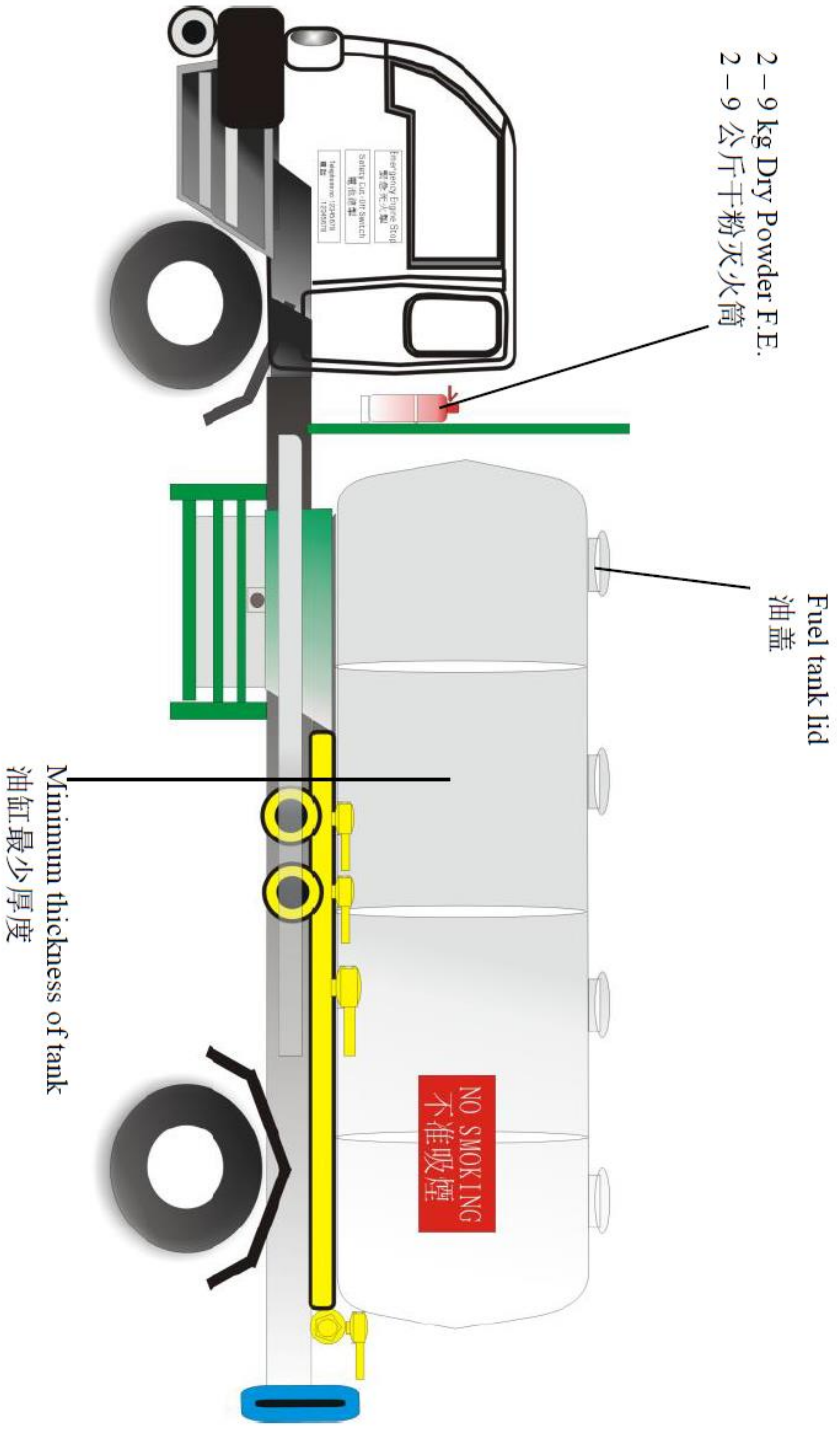
Sample 13a

Attached drawing - the tank wagon for Cat.5 DG (petroleum products)
附图 - 第 5 类危险品(石油产品)的油缸车



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Sample 13a

Attached guidance note - cargo tank volumetric measurement
附指引 – 计算油缸容积

The volumetric capacities of the cargo tank should be measured by either calculation or water capacity test.
油缸的容积需以计算方式或水容量测试量度。

i) By calculation
以计算方式

The capacity of the tank should be calculated with incorporation of the following details:
在计算油缸的容积时，下列数据需包括在内：

- Detailed drawings including every elevation and section of the tank;
  包括油缸每个立面及切面的详细图则；
- Cross-sectional area of the tank;
  油缸的切面面积；
- Length of the tank;
  油缸的长度；
- Length of each tank compartment;
  每个油缸间格的长度；
- Thickness of the tank;
  油缸的厚度
- Position of the baffles inside the tank;
  油缸内隔板的位置；
- Curvature of the front and rear of the tank;
  油缸前后的弧度；
- Necessary deduction and addition of volume due to the internal structure of the tank;
  因应油缸内的结构而需要增加或减少的容量；

ii) By water capacity test
以水容量测试

When using water capacity test, the following detail should be incorporated:
在以水容量测试容积时，下列数据需包括在内：

- Calibration of the meter by a competent person;
  由合资格人士对泵作出的校准；
- Reading of the meter before and after the test;
  测试前后泵的读数；

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- Photos showing the interior of the tank before and after the test.
  测试前后每个油缸间格内部的照片。

The measurement error should be within +/- 5% from the actual volumetric capacity of the tank.
量度的误差不应多于或少于油缸的实际容积的 5%。

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