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which are likely to become hazardous to transport when wet, to keep them from being wetted during the loading process and to keep them dry during transit. Special care shall also be taken in the loading of any motor vehicle with Class 4 (flammable solid) or Class 5 (oxidizing) materials, which are likely to become more hazardous to transport by wetting, to keep them from being wetted during the loading process and to keep them dry during transit. Examples of such dangerous materials are charcoal screenings, ground, crushed, or pulverized charcoal, and lump charcoal.

(c) *Lading ventilation, precautions against spontaneous combustion.* Whenever a motor carrier has knowledge concerning the hazards of spontaneous combustion or heating of any article to be loaded on a motor vehicle, such article shall be so loaded as to afford sufficient ventilation of the load to provide reasonable assurance against fire from this cause; and in such a case the motor vehicle shall be unloaded as soon as practicable after reaching its destination. Charcoal screenings, or ground, crushed, granulated, or pulverized charcoal, in bags, shall be so loaded that the bags are laid horizontally in the motor vehicle, and so piled that there will be spaces for effective air circulation, which spaces shall not be less than 10 cm (3.9 inches) wide; and air spaces shall be maintained between rows of bags. Bags shall not be piled closer than 15 cm (5.9 inches) from the top of any motor vehicle with a closed body.

(d)–(e) [Reserved]

(f) Nitrates, except ammonium nitrate having organic coating, must be loaded in closed or open type motor vehicles, which must be swept clean and be free of any projections capable of injuring bags when so packaged. When shipped in open type motor vehicles, the lading must be suitably covered. Ammonium nitrate having organic coating must not be loaded in all-metal vehicles, other than those made of aluminum or aluminum alloys of the closed type.

(g) A motor vehicle may only contain 45.4 kg (100 pounds) or less net mass of material described as ''Smokeless powder for small arms, Division 4.1''.

(h) *Division 4.2 (pyrophoric liquid) materials in cylinders.* Cylinders containing Division 4.2 (pyrophoric liquid) materials, unless packed in a strong box or case and secured therein to protect valves, must be loaded with all valves and safety relief devices in the vapor space. All cylinders must be secured so that no shifting occurs in transit.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §177.838, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.fdsys.gov*.

§ 177.839 Class 8 (corrosive) materials.

(See also §177.834(a) through (j).)

(a) *Nitric acid.* No packaging of nitric acid of 50 percent or greater concentration may be loaded above any packaging containing any other kind of material.

(b) *Storage batteries.* All storage batteries containing any electrolyte must be so loaded, if loaded with other lading, that all such batteries will be protected against other lading falling onto or against them, and adequate means must be provided in all cases for the protection and insulation of battery terminals against short circuits.

[Amdt. 177–87, 61 FR 27175, May 30, 1996]

§ 177.840 Class 2 (gases) materials.

(See also §177.834 (a) to (j).)

(a) *Floors or platforms essentially flat.* Cylinders containing Class 2 (gases) materials shall not be loaded onto any part of the floor or platform of any motor vehicle which is not essentially flat; cylinders containing Class 2 (gases) materials may be loaded onto any motor vehicle not having a floor or platform only if such motor vehicle be equipped with suitable racks having adequate means for securing such cylinders in place therein. Nothing contained in this section shall be so construed as to prohibit the loading of such cylinders on any motor vehicle having a floor or platform and racks as hereinbefore described.

(1) *Cylinders.* Cylinders containing Class 2 gases must be securely restrained in an upright or horizontal position, loaded in racks, or packed in