

International Maritime Dangerous Goods (IMDG) **Special Provision 961 and 962**

SP 961 and SP 962

Since 2010 when the International Maritime Organization decided to re-regulate vehicles, the applicability, and requirements of IMDG Special Provisions SP961 and SP962 have been discussed within the vessel and shipping industries. The Special Provisions were introduced as a way to limit the amount of dangerous goods contained within vehicles when hazard communication is not provided. Further, the provisions identified exceptions to hazard communication when dangerous goods are present in certain quantities.

UN 3166 or UN 3171

When shipping vehicles under the IMDG Code, it is important to recognize a number of special provisions apply and can help determine which proper shipping name and UN number is appropriate. For example, UN 3166 includes the entries vehicle, flammable gas powered; vehicle, flammable liquid powered; vehicle, fuel cell, flammable gas powered; and vehicle, fuel cell, flammable liquid powered. Special provision 388 details which entry should be used depending on whether the vehicle is powered by a fuel cell or internal combustion engine.

Similarly, UN 3171 includes the entries battery – powered vehicle and battery – powered equipment. Again, Special provision 388 indicates this entry only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries transported with these batteries installed. Note that equipment containing lithium batteries must be consigned under the entries UN 3091 or UN 3481.

SP 961

SP961 was drafted to except from the IMDG Code vehicles which are being transported on a transport vessel in an area specifically designed to contain vehicles. Specifically, this includes Roll on, Roll off vessels, although there are other vessels which have designated areas approved by the flag State for the storage of vehicles. These areas do not, however, include storage areas for container transport units. The paragraph addressing the transport of these vehicles is as follows:

Vehicles are not subject to the provisions of this Code if any of the following conditions are met:

.1 vehicles are stowed on the vehicle, special category and ro-ro spaces or on the weather deck of a ro-ro ship or a cargo space designated by the Administration (flag State) in accordance with SOLAS 74, chapter II-2 regulation 20 as specifically designed and approved for the carriage of vehicles, and there are no signs of leakage from the battery, engine, fuel cell, compressed gas cylinder or accumulator, or fuel tank when applicable. When packed in a cargo transport unit the exception does not apply to container cargo spaces of a ro-ro ship.

In addition, SP 961 addresses when vehicles are powered by lithium ion or lithium metal batteries either as hybrid or full electric vehicles, including prototype lithium batteries installed in the vehicle:

In addition, for vehicles powered solely by lithium batteries and hybrid electric vehicles powered by both an internal combustion engine and lithium metal or ion batteries, the lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use. Where a lithium battery installed in a vehicle is damaged or defective, the battery shall be removed.

Note that hybrid and fully electric vehicles may only utilize SP 961 when being shipped on a RO/RO vessel or on vessels with an approved cargo space specifically for vehicles. If the hybrid or fully electric vehicle is being shipped on a container vessel, SP 961 cannot be used for the shipment. In these instances, SP 962 would be applicable for the shipment.

SP 961 provides additional exceptions for vehicles. Unlike exception 961.1, these exceptions may be used when the vehicles are transported in cargo transport units. These exceptions are different based on the type of fuel that is used, or when the batteries are wet or dry electric storage batteries or sodium batteries:

.2 vehicles powered by a flammable liquid fuel with a flashpoint of 38° C or above, there are no leaks in any portion of the fuel system, the fuel tank(s) contains 450 L of fuel or less and installed batteries are protected from short circuit;

.3 vehicles powered by a flammable liquid fuel with a flashpoint less than 38° C, the fuel tank(s) are empty and installed batteries are protected from short circuit. Vehicles are considered to be empty of flammable liquid fuel when the fuel tank has been drained and the vehicles cannot be operated due to lack of fuel. Engine components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained, or purged to be considered empty. The fuel tank does not need to be cleaned or purged.

.4 vehicles powered by a flammable gas (liquified or compressed), the fuel tank(s) are empty and the positive pressure in the tank does not exceed 2 bar, the fuel shut-off or

isolation valve is closed and secured, and installed batteries are protected from short circuit;

.5 vehicles solely powered by a wet or dry electric storage battery or a sodium battery, and the battery is protected from short-circuit.

If any of these conditions are met, the vehicle is not subject to the conditions of the IMDG Code. If condition 1 is met it is not necessary to meet the requirements of conditions 2-5. However, if condition 1 is not met and a vehicle contains flammable liquid fuel above the limits noted above or the tank is pressurized by flammable or compressed gas, the conditions of SP 961 have not been met, and the shipment must be offered in compliance with SP 962.

Vehicles powered solely by a lithium battery must be consigned as UN 3171 battery-powered vehicle as per special provision 388.

Paragraph .3 of this provision does not require the fuel tank to be completely free of fuel residue. However, no free liquid is permitted in the fuel tank. Paragraph .4 requires that the positive pressure of the tank not exceed 2 bar, and that no flammable gas remain in the tank.

Special provision 961 requires no marking, no labeling, no placarding, no documentation, and no special handling conditions other than those detailed in special provision 961. Therefore, vehicles stowed on roll – on/roll – off ships in designated vehicle stowage spaces or a cargo space designated by the flag state or those which do not contain flammable liquid flammable gas or are powered solely by a wet or dry electric storage battery or sodium battery are not subject to the provisions of the IMDG code.

SP 962

If the conditions of special provision 961 are not met (the vehicle is not stowed aboard a roll – on/roll – off ship or in another cargo space designated by the flag state and contains flammable liquid or flammable or compressed gas), then the conditions of special provision 962 apply. The text of special provision 962 reads:

Vehicles, not meeting the conditions of special provision 961 shall be assigned to class 9 and shall meet the following requirements:

.1 Vehicles shall not show signs of leakage from batteries, engines, fuel cells, compressed gas cylinders or accumulators, or fuel tank(s) when applicable;

.2 For flammable liquid powered vehicles, the fuel tank(s) containing the flammable liquid shall not be more than one fourth full and in any case the flammable liquid shall not exceed 250L unless otherwise approved by the competent authority;

.3 For flammable gas powered vehicles, the fuel shut-off valve for the fuel tank(s) shall be securely closed;

.4 Installed batteries shall be protected from damage, short circuit, and accidental activation during transport. Lithium batteries shall meet the provisions of 2.9.4, except that 2.9.4.1 and 2.9.4.7 do not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use. Where a lithium battery installed in a vehicle is damaged or defective, the battery shall be removed and transported according to SP376, unless otherwise approved by the competent Authority.

The provisions of this Code relevant to marking, labeling, placarding and marine pollutants shall not apply.

Paragraphs 1 through 4 detail the conditions which must be met in order to ship vehicles under special provision 962. This includes that vehicles shall not show any signs of leakage from the batteries, the engine, the fuel cells, the compressed gas cylinders accumulators, or fuel tanks. Paragraph 2 indicates that flammable liquid may remain in the tank. If the vehicle is powered by a flammable liquid, the fuel tank may be up to one fourth full, or up to 250 L, whichever is less. Paragraph 3 does not provide any limitation on the amount of flammable gas contained in a fuel tank for a flammable gas powered vehicle, but does require the fuel shutoff valve to be securely closed. Paragraph 4 addresses lithium batteries and requires that all installed lithium batteries be of a design type which meet the provisions of 2.9. unless the batteries are prototype or low production batteries.

If all conditions of these four paragraphs are met, then the marking, labeling, and placarding provisions of the IMDG Code do not apply. Only documentation, and if applicable, segregation requirements apply.