### Dangerous Goods Reference List

### Table of Items that may be Carried by Passengers and Crew

International standards permit the carriage of the dangerous goods listed in the following table by passengers or crew members either as or in carry-on baggage or checked baggage or on their person. Additional restrictions implemented by countries in the interests of aviation security may, however, limit or forbid the carriage of some of these items.

| *Items or articles* | | *Location* | | | *Approval of the operator(s)*  *is required* | *The pilot-in-*  *command must*  *be informed* | *Restrictions* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Checked*  *baggage* | *Carry-on*  *baggage* | *On the*  *person* |
| **Medical necessities** | | | | | | | |
| 1) | Small gaseous oxygen or air cylinders required for medical use | Yes | Yes | Yes | Yes | Yes | a) no more than 5 kg gross mass per cylinder;  b) cylinders, valves and regulators, where fitted, must be protected from damage which could cause inadvertent release of the contents; and  c) the pilot in command must be informed of the number of oxygen or air cylinders loaded onboard the aircraft and their loading location(s). |
|  | Devices containing liquid oxygen | No | No | No | n/a | n/a | Devices containing liquid oxygen are forbidden in carry-on baggage, checked baggage or on the person. |
|  | Empty air cylinders for other purposes, such as scuba diving | Yes | Yes | n/a | No | No | May only be carried if empty. |
| 2) | Cylinders of a non-flammable, non-toxic gas worn for the operation of mechanical limbs | Yes | Yes | Yes | No | No | Spare cylinders of a similar size are also allowed, if required, to ensure an adequate supply for the duration of the journey. |
| 3) | Non-radioactive medicinal articles (including aerosols) | Yes | Yes | Yes | No | No | a) no more than 0.5 kg or 0.5 L total net quantity per single article;  b) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and  c) no more than 2 kg or 2 L total net quantity of all articles mentioned in 3), 10) and 13) (e.g. four aerosol cans of 500 mL each) per person. |
| 4) | Radioisotopic cardiac pacemakers or other medical devices, including those powered by lithium batteries | n/a | n/a | Yes | No | No | Must be implanted into a person or fitted externally as the result of medical treatment. |
|  | Radio-pharmaceuticals contained within the body of a person | n/a | n/a | Yes | No | No | Must be as the result of medical treatment. |
| 5) | Mobility aids (e.g. wheelchairs) powered by non-spillable wet batteries or batteries which comply with Special Provision A123, for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg) | Yes | No | No | Yes | (see 5 d) iv)) | a) non-spillable wet batteries must comply with Special Provision A67 or the vibration and pressure differential tests of Packing Instruction 872;  b) the operator must verify that:  i) the battery is securely attached to the mobility aid;  ii) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and  iii) electrical circuits have been isolated;  *To do this, place the device into drive mode (i.e. not freewheel mode), see if the mobility aid will power up and if so whether use of the joystick results in the mobility aid moving.  It must also be verified that the circuits of supplemental motorised systems such as seating systems have been inhibited to prevent inadvertent operation, e.g. by the separation of cable connectors.  If an electric mobility aid has not been made safe for carriage, it must not be loaded.*  c) mobility aids must be carried in a manner such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;  d) where the mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):  i) the battery(ies) must be removed; the mobility aid may then be carried as checked baggage without restriction;  ii) the removed battery(ies) must be carried in strong, rigid packagings which must be stowed in the cargo compartment;  iii) the battery(ies) must be protected from short circuit; and  iv) the pilot in command must be informed of the location of the packed battery; |
| 6) | Mobility aids (e.g. wheelchairs) powered by spillable batteries, for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg) | Yes | No | No | Yes | Yes | a) where possible, the mobility aid must be loaded, stowed, secured and unloaded always in an upright position. The operator must verify that:  i) the battery is securely attached to the mobility aid;  ii) battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and  iii) electrical circuits have been isolated;  *To do this, place the device into drive mode (i.e. not freewheel mode), see if the mobility aid will power up and if so whether use of the joystick results in the mobility aid moving. It must also be verified that the circuits of supplemental motorised systems such as seating systems have been inhibited to prevent inadvertent operation, e.g. by the separation of cable connectors. If an electric mobility aid has not been made safe for carriage, it must not be loaded.*  b) if the mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position, the battery(ies) must be removed and carried in strong, rigid packagings, as follows:  i) packagings must be leak-tight, impervious to battery fluid and be protected against upset by securing them to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by the use of restraining straps, brackets or holders;  ii) batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and  iii) these packagings must be marked “Battery, wet, with wheelchair” or “Battery, wet, with mobility aid” and be labelled with a “Corrosive” label (Figure 5-22) and with package orientation labels (Figure 5-26) as required by 5;3;  The mobility aid may then be carried as checked baggage without restriction;  c) mobility aids must be carried in a manner such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;  d) the pilot in command must be informed of the location of the mobility aid with an installed battery or the location of a packed battery; |
| 7) | Mobility aids (e.g. wheelchairs) powered by lithium ion batteries, for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg) | Yes | (see 7 d)) | No | Yes | Yes | a) the batteries must be of a type which meets the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3;  b) the operator must verify that:  i) the battery is securely attached to the mobility aid;  ii) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container); and  iii) electrical circuits have been isolated;  *To do this, place the device into drive mode (i.e. not freewheel mode), see if the mobility aid will power up and if so whether use of the joystick results in the mobility aid moving.  It must also be verified that the circuits of supplemental motorised systems such as seating systems have been inhibited to prevent inadvertent operation, e.g. by the separation of cable connectors.  If an electric mobility aid has not been made safe for carriage, it must not be loaded.*  c) mobility aids must be carried in a manner such that they are protected from being damaged by the movement of baggage, mail, stores or other cargo;  d) where the mobility aid is specifically designed to allow its battery(ies) to be removed by the user (e.g. collapsible):  i) the battery(ies) must be removed and carried in the passenger cabin;  ii) the battery terminals must be protected from short circuit (by insulating the terminals, e.g. by taping over exposed terminals);  iii) the battery must be protected from damage (e.g. by placing each battery in a protective pouch);  iv) removal of the battery from the mobility aid must be performed by following the instructions of the manufacturer or device owner;  v) the battery must not exceed 300 Wh; and  vi) a maximum of one spare battery not exceeding 300 Wh or two spares not exceeding 160 Wh each may be carried;  e) the pilot in command must be informed of the location of the lithium ion battery(ies); |
| 8) | Portable medical electronic devices (automated external defibrillators (AED), nebulizer, continuous positive airway pressure (CPAP), etc.) containing lithium metal or lithium ion cells or batteries |  |  |  |  |  |  |
|  | Portable medical  electronic devices  containing lithium metal  cells or batteries not  exceeding 2 grams or  lithium ion cells or  batteries not exceeding  100 Wh | Yes | Yes | Yes | No | No | a) carried by passengers for medical use;  b) each installed or spare battery:  — must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3;  c) spare batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and  d) no more than two spare batteries exceeding 2 grams lithium content for lithium metal or a watt-hour rating of 100 Wh for lithium ion may be carried by a passenger. |
|  | Spare batteries for  portable medical  electronic devices  containing lithium metal  cells or batteries not  exceeding 2 grams or  lithium ion cells or  batteries not exceeding  100 Wh | No | Yes | Yes | No | No |
|  | Portable medical  electronic devices  containing lithium metal  batteries exceeding 2  grams but not  exceeding 8 grams or  lithium ion batteries  exceeding 100 Wh but  not exceeding 160 Wh | Yes | Yes | Yes | Yes | No |
|  | Spare batteries for  portable medical  electronic devices  containing lithium metal  batteries exceeding 2  grams but not  exceeding 8 grams or  lithium ion batteries  exceeding 100 Wh but  not exceeding 160 Wh | No | Yes | Yes | Yes | No |
| 9) | Small medical or clinical thermometer which contains mercury | Yes | Yes | Yes | No | No | a) no more than one per person;  b) must be for personal use; and  c) must be in its protective case. |
| **Articles used in dressing or grooming** | | | | | | | |
| 10) | Toiletry articles (including aerosols) | Yes | Yes | Yes | No | No | a) the term “toiletry articles (including aerosols)” is intended to include such items as hair sprays, perfumes and colognes;  b) no more than 0.5 kg or 0.5 L total net quantity per single article;  c) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and  d) no more than 2 kg or 2 L total net quantity of all articles mentioned in 3), 10) and 13) (e.g. four aerosol cans of 500 mL each) per person. |
| 11) | Hair curlers containing hydrocarbon gas | Yes | Yes | Yes | No | No | a) no more than one per person;  b) the safety cover must be securely fitted over the heating element; and  c) gas refills for such curlers must not be carried. |
| **Consumer articles** | | | | | | | |
| 12) | Alcoholic beverages containing more than 24 per cent but not more than 70 per cent alcohol by volume | Yes | Yes | Yes | No | No | a) must be in retail packagings;  b) no more than 5 L per individual receptacle; and  c) no more than 5 L total net quantity per person for such beverages.  *Note.— Alcoholic beverages containing not more than 24 per cent alcohol by volume are not subject to any restrictions.* |
| 13) | Aerosols (non-flammable, non-toxic), with no subsidiary risk, for sporting or home use | Yes | No | No | No | No | a) no more than 0.5 kg or 0.5 L total net quantity per single article;  b) release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents; and  c) no more than 2 kg or 2 L total net quantity of all articles mentioned in 3), 10) and 13) (e.g. four aerosol cans of 500 mL each) per person. |
| 14) | Securely packaged cartridges in Division 1.4S (UN 0012 or UN 0014 only); | Yes | No | No | Yes | No | a) no more than 5 kg gross mass per person for that person’s own use;  b) must not include ammunition with explosive or incendiary projectiles; and  c) allowances for more than one person must not be combined into one or more packages. |
| 15) | Small packet of safety matches | No | No | Yes | No | No | a) no more than one per person; and  b) intended for use by an individual. |
|  | “Strike anywhere” matches | No | No | No | n/a | n/a | Forbidden. |
|  | Small cigarette lighter | No | No | Yes | No | No | a) no more than one per person;  b) intended for use by an individual; and  c) does not contain unabsorbed liquid fuel (other than liquefied gas). |
|  | Lighter fuel and lighter refills | No | No | No | n/a | n/a | Forbidden. |
|  | Premixing burner lighter (e.g. lighters producing a blue flame) with a means of protection against unintentional activation | No | No | Yes | No | No | a) no more than one per person;  b) intended for use by an individual; and  c) does not contain unabsorbed liquid fuel (other than liquefied gas). |
|  | Premixing burner lighter (e.g. lighters producing a blue flame) without a means of protection against unintentional activation | No | No | No | n/a | n/a | Forbidden. |
| 16) | Battery-powered equipment capable of generating extreme heat, which could cause a fire if activated (e.g. underwater high intensity lamps) | Yes | Yes | No | Yes | No | a) the heat-producing component and the battery are isolated from each other by the removal of the heat-producing component, the battery or another component (e.g. fuse); and  b) any battery which has been removed must be protected against short circuit (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch). |
| 17) | Avalanche rescue backpack containing a cylinder of compressed gas of Division 2.2 | Yes | Yes | No | Yes | No | a) no more than one per person;  b) may contain a pyrotechnic trigger mechanism which must not contain more than 200 mg net of Division 1.4S;  c) the backpack must be packed in such a manner that it cannot be accidentally activated; and  d) the airbags within the backpack must be fitted with pressure relief valves. |
| 18) | Small cartridges fitted into a self-inflating personal safety device such as a life-jacket or vest | Yes | Yes | Yes | Yes | No | a) no more than one personal safety device per person;  b) the personal safety device must be packed in such a manner that it cannot be accidently activated;  c) limited to carbon dioxide or another suitable gas in Division 2.2;  d) must be for inflation purposes;  e) the device must be fitted with no more than two small cartridges; and  f) no more than two spare cartridges. |
|  | Small cartridges for other devices | Yes | Yes | Yes | Yes | No | a) no more than four small cartridges of carbon dioxide or other suitable gas in Division 2.2, without subsidiary risk, per person; and  b) the water capacity of each cartridge must not exceed 50 mL.  *Note.— For carbon dioxide, a gas cartridge with a water capacity of 50 mL is equivalent to a 28 g cartridge.* |
| 19) | Portable electronic devices (such as watches, calculating machines, cameras, cellular phones, laptop computers, camcorders) |  |  |  |  |  |  |
|  | Battery-powered portable electronic smoking devices (e.g. e-cigarettes, e-cigs, e-cigars, e-pipes, personal vaporizers, electronic nicotine delivery systems) | No | Yes | Yes | No | No | a) carried by passengers or crew for personal use;  b) spare batteries must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);  c) each battery must not exceed the following:  — for lithium metal batteries, a lithium content of not more than 2 grams; or  — for lithium ion batteries, a Watt-hour rating of 100 Wh;  d) each lithium battery must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38; and  e) recharging of the devices and/or batteries onboard the aircraft is not permitted. |
|  | Portable electronic devices (including medical devices) containing lithium metal or lithium ion cells or batteries (articles containing lithium metal or lithium ion cells or batteries the primary purpose of which is to provide power to another device must carried as spare batteries in accordance with the item below) | Yes | Yes | Yes | No | No | a) carried by passengers or crew for personal use;  b) should be carried as carry-on baggage;  c) each battery must not exceed the following:  — for lithium metal batteries, a lithium content of not more than 2 grams; or  — for lithium ion batteries, a Watt-hour rating of not more than 100 Wh;  d) if devices are carried in checked baggage, measures must be taken to prevent unintentional activation; and  e) batteries and cells must be of a type which meets the requirements of each test in the  UN *Manual of Tests and Criteria*, Part III,  subsection 38.3. |
|  | Spare batteries for portable electronic devices (including medical devices) containing lithium metal or lithium ion cells or batteries | No | Yes | Yes | No | No | a) carried by passengers or crew for personal use;  b) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch);  c) each battery must not exceed the following:  — for lithium metal batteries, a lithium content of not more than 2 grams; or  — for lithium ion batteries, a Watt-hour rating of not more than 100 Wh; and |
|  |  |  |  |  |  |  | d) batteries and cells must be of a type which meets the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3. |
|  | Portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh | Yes | Yes | Yes | Yes | No | a) carried by passengers or crew for personal use;  b) should be carried as carry-on baggage; and  c) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3. |
|  | Spare batteries for portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh | No | Yes | Yes | Yes | No | a) carried by passengers or crew for personal use;  b) no more than two individually protected spare batteries per person;  c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and  d) batteries and cells must be of a type which meets the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3. |
| 20) | Fuel cells used to power portable electronic devices (for example, cameras, cellular phones, laptop computers and camcorders) | No | Yes | Yes | No | No | a) fuel cell cartridges may only contain flammable liquids, corrosive substances, liquefied flammable gas, water reactive substances or hydrogen in metal hydride;  b) refuelling of fuel cells onboard an aircraft is not permitted except that the installation of a spare cartridge is allowed;  c) the maximum quantity of fuel in any fuel cell or fuel cell cartridge must not exceed:  — for liquids 200 mL;  — for solids 200 grams;  — for liquefied gases, 120 mL for non-metallic fuel cell cartridges or 200 mL for metal fuel cell or fuel cell cartridges; and  — for hydrogen in metal hydride, the fuel cell or fuel cell cartridges must have a water capacity of 120 mL or less; |
|  | Spare fuel cell cartridges | Yes | Yes | Yes | No | No |
|  |  |  |  |  |  |
|  |  |  |  |  |  |  | d) each fuel cell and each fuel cell cartridge must conform to IEC 62282-6-100 Ed. 1, including Amendment 1and must be marked with a manufacturer’s certification that it conforms to the specification. In addition, each fuel cell cartridge must be marked with the maximum quantity and type of fuel in the cartridge;  e) fuel cell cartridges containing hydrogen in metal hydride must comply with the requirements in Special Provision A162;  f) no more than two spare fuel cell cartridges may be carried by a passenger;  g) fuel cells containing fuel are permitted in carry-on baggage only; |
|  |  |  |  |  |  |  | h) interaction between fuel cells and integrated batteries in a device must conform to IEC 62282-6-100 Ed. 1 including Amendment 1. Fuel cells whose sole function is to charge a battery in the device are not permitted; |
|  |  |  |  |  |  |  | i) fuel cells must be of a type that will not charge batteries when the portable electronic device is not in use and must be durably marked by the manufacturer: “APPROVED FOR CARRIAGE IN AIRCRAFT CABIN ONLY” to so indicate; and  j) in addition to the languages which may be required by the State of Origin for the markings specified above, English should be used. |
| 21) | Dry ice | Yes | Yes | No | Yes | No | a) no more than 2.5 kg per person;  b) used to pack perishables that are not subject to these Instructions;  c) the package must permit the release of carbon dioxide gas; and  d) when carried in checked baggage, each package must be marked:  — “DRY ICE” or “CARBON DIOXIDE, SOLID”; and  — the net weight of dry ice or an indication that the net weight is 2.5 kg or less. |
| 22) | A mercurial barometer or mercurial thermometer | No | Yes | No | Yes | Yes | a) must be carried by a representative of a government weather bureau or similar official agency; and  b) must be packed in a strong outer packaging, having a sealed inner liner or a bag of strong leakproof and puncture-resistant material impervious to mercury, which will prevent the escape of mercury from the package irrespective of its position. |
| 23) | Instruments containing radioactive material (i.e. chemical agent monitor (CAM) and/or rapid alarm and identification device monitor (RAID-M)) | Yes | Yes | No | Yes | No | a) the instruments must not exceed the activity limits specified in Table 2-15 of these Instructions;  b) must be securely packed and without lithium batteries; and  c) must be carried by staff members of the Organization for the Prohibition of Chemical Weapons (OPCW) on official travel. |
| 24) | Energy efficient lamps | Yes | Yes | Yes | No | No | a) when in retail packaging; and  b) intended for personal or home use. |
| 25) | Permeation devices for calibrating air quality monitoring equipment | Yes | No | No | No | No | Must comply with Special Provision A41. |
| 26) | Portable electronic equipment containing a non-spillable battery meeting the requirements of Special Provision A67 | Yes | Yes | No | No | No | a) the battery must not have a voltage greater than 12 volts and a Watt-hour rating of not greater than 100 Wh; and  b) the equipment must be either protected from inadvertent activation, or the battery disconnected and exposed terminals insulated. |
|  | Spare non-spillable batteries meeting the requirements of Special Provision A67 | Yes | Yes | No | No | No | a) the battery must not have a voltage greater than 12 volts and a Watt-hour rating of not greater than 100 Wh;  b) the battery must be protected from short circuit by the effective insulation of exposed terminals; and  c) no more than two individually protected batteries per person. |
| 27) | Internal combustion engines or fuel cell engines | Yes | No | No | No | No | Must comply with Special Provision A70. |
| 28) | Non-infectious specimens | Yes | Yes | No | No | No | Must comply with Special Provision A180. |
| 29) | Insulated packagings containing refrigerated liquid nitrogen | Yes | Yes | No | No | No | Must comply with Special Provision A152. |
| **Security-type equipment** | | | | | | | |
| 30) | Security-type equipment, such as attaché cases, cash boxes, cash bags, etc., incorporating dangerous goods as part of this equipment, for example, lithium batteries or pyrotechnic material | Yes | No | No | Yes | No | a) the equipment must be equipped with an effective means of preventing accidental activation;  b) if the equipment contains an explosive or pyrotechnic substance or an explosive article, this article or substance must be excluded from Class 1 by the appropriate national authority of the State of Manufacture in compliance with Part 2;1.5.2.1;  c) if the equipment contains lithium cells or batteries, these cells or batteries must comply with the following restrictions:  — for a lithium metal cell, the lithium content is not more than 1 g;  — for a lithium metal battery, the aggregate lithium content is not more than 2 g;  — for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;  — for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;  — cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3;  d) if the equipment contains gases to expel dye or ink:  — only gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 mL, containing no constituents subject to these Instructions other than a Division 2.2 gas, are allowed;  — the release of gas must not cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties; and  — in case of accidental activation, all hazardous effects must be confined within the equipment and must not produce extreme noise; and  e) security type equipment that is defective or that has been damaged is forbidden for transport. |
| 30) | Security-type equipment, such as attaché cases, cash boxes, cash bags, etc., incorporating dangerous goods as part of this equipment, for example, lithium batteries or pyrotechnic material | Yes | No | No | Yes | No | a) the equipment must be equipped with an effective means of preventing accidental activation;  b) if the equipment contains an explosive or pyrotechnic substance or an explosive article, this article or substance must be excluded from Class 1 by the appropriate national authority of the State of Manufacture in compliance with Part 2;1.5.2.1;  c) if the equipment contains lithium cells or batteries, these cells or batteries must comply with the following restrictions:  — for a lithium metal cell, the lithium content is not more than 1 g;  — for a lithium metal battery, the aggregate lithium content is not more than 2 g;  — for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;  — for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;  — cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3;  d) if the equipment contains gases to expel dye or ink:  — only gas cartridges and receptacles, small, containing gas with a capacity not exceeding 50 mL, containing no constituents subject to these Instructions other than a Division 2.2 gas, are allowed;  — the release of gas must not cause extreme annoyance or discomfort to crew members so as to prevent the correct performance of assigned duties; and  — in case of accidental activation, all hazardous effects must be confined within the equipment and must not produce extreme noise; and  e) security type equipment that is defective or that has been damaged is forbidden for transport. |