

## **SIGNIFICANT CHANGES AND AMENDMENTS TO THE 58TH EDITION (2017)**

The 58<sup>th</sup> edition of the IATA *Dangerous Goods Regulations* incorporates all amendments made by the ICAO Dangerous Goods Panel in developing the content of the 2017-2018 edition of the ICAO Technical Instructions as well as changes adopted by the IATA Dangerous Goods Board. The following list is intended to assist the user to identify the main changes introduced in this edition and must not be considered an exhaustive listing. The changes have been prefaced by the section or subsection in which the change occurs.

### **1—Applicability**

**1.2.7.5**—An exception has been added to address dangerous goods fitted on aircraft equipped for search and rescue to allow the dangerous goods to remain on the aircraft for other flights such as training and positioning flights.

**1.2.8.2**—A new paragraph has been added to clarify that dangerous goods accepted under the provisions of regulations in force at the time of acceptance by the initial operator can continue to destination even if the regulations applicable to the dangerous goods have changed while the dangerous goods are still in transport, e.g. dangerous goods accepted at the end of December can continue in transport in January even if new provisions affecting these dangerous goods have become effective as of 1 January.

### **1.4—Operator Responsibilities**

The requirements related to the provision of information to passengers as set out in 1.4.3 have been completely revised to allow for operators to develop performance-based notification system to advise passengers that reflect the operator's own capabilities and operation. The details of this notification system must be documented in the operator's operations, or other applicable manual.

### **1.5—Training Requirements**

**1.5.1**—"Training Programmes" has been renamed "Dangerous Goods Training Programmes" and a new 1.5.1.2—Review and Approval has been added. The new paragraph replaces the existing 1.5.5—Approval.

### **1.6—Adequate Instruction**

A new paragraph has been added that sets out what should be established by shippers of Section II lithium batteries to meet the conditions for "adequate instruction" of employees who are responsible for the preparation of packages of lithium batteries offered for air transport in accordance with Section II of the lithium battery packing instructions.

## **2—Limitations**

### **2.6—Dangerous Goods in Excepted Quantities**

**2.6.5**—The packing provisions have been revised to allow for the absorbent material to be either in the intermediate packaging, or the outer packaging for liquid dangerous goods.

### **2.8—State and Operator Variations**

There are a number of additions, deletions and amendments to variations submitted by operators.

## **3—Classification**

**3.0.1.5**—A new paragraph has been added to set out the provisions for where a shipper identifies, by testing, that a listed substance has a subsidiary hazard not identified in the list of dangerous goods. The new provision identifies that the shipper must with the approval of the appropriate national authority either use a "n.o.s." entry or ship the substance under the listed entry with the addition of the subsidiary hazard.

**3.1.8**—Recommendations have been added that the competent authority responsible for the classification of explosives should provide in writing the details of the classification as detailed.

**3.2.6, 3.3.6, 3.6.1.9 and 3.8.4**—New provisions have been added to address substances in Class 2, Class 3, Division 6.1 and Class 8, respectively, that may polymerize during normal conditions of transport.

**3.4.1.4**—Provisions have been added for the classification of polymerizing substances. The provisions are analogous to those for self-reactive substances.

**3.6.2.6**—The classification requirements for infected live animals have been revised.

## **4—Identification**

### **4.2—List of Dangerous Goods**

Amendments to the List of Dangerous Goods include:

- revision to a number of the entries for aerosols to consolidate all aerosols into packing instructions 203 and Y203;
- addition of special provision A209 against entries with “stabilized” in the proper shipping name;
- all entries of “engines” have been deleted from UN 3166. UN 3166 in Class 9 now only applies to the proper shipping names “vehicles”. Engines are now assigned to UN 3528—UN 3530 in Division 2.1, Class 3 or Class 9, based on the classification of the fuel that powers the engine. Also assigned to UN 3528—UN 3530 are proper shipping names for “machines” which are also based on the classification of the fuel used to power the machines;
- UN 3480, **Lithium ion batteries** has been amended to show “forbidden” across columns I/J to identify that these batteries are now restricted to Cargo Aircraft Only. This change became effective 1 April 2016 through an addendum to the 57<sup>th</sup> edition of the DGR. There is no change to the entries for UN 3481, lithium ion batteries packed with equipment or lithium ion batteries contained in equipment;
- all entries for lithium batteries, UN 3090, UN 3091, UN 3480 and UN 3481 have been revised to identify that the hazard label has changed to now be the lithium battery Class 9 label. A new Special Provision A206 has also been assigned to reinforce this new requirement;
- UN 3269, **Polyester resin kit** has been revised to add “liquid base material” as light type and a new entry “UN 3527, **Polyester resin kit**, solid base material” in Division 4.1 has been added to provide for polyester resin kits that have a Division 4.1 solid material as the base component;
- four new entries, UN 3531—UN 3534 have been added for polymerizing substances;
- the entries UN 2977, **Radioactive material, uranium hexafluoride fissile** and UN 2978, **Radioactive material, uranium hexafluoride**, non-fissile or fissile excepted have now been assigned a subsidiary risk of Division 6.1 in addition to Class 8;
- UN 3507, **Uranium hexafluoride, radioactive material, excepted package**, less than 0.1 kg per package, non-fissile or fissile-excepted has been revised to now be assigned to Division 6.1 with subsidiary risks of Class 7 and Class 8. The packing instruction assigned is now PI 603.

### **4.4—Special Provisions**

**A21** and **A134**—Have been revised to address the changes to UN 3166 and the new entries for engines and machinery.

**A38**—Has been revised to remove reference to polymeric beads.

**A66**—Has been revised to include reference to the polyester resin kits in Division 4.1.

**A88**—Which applies to prototype or small production run lithium cells and batteries has been revised to now refer to PI 910 in the Supplement to the ICAO Technical Instructions.

**A104**—Which was assigned to UN 1230, **Methanol**, and which allowed packages containing methanol to not bear a Toxic hazard label, been deleted. All packages containing methanol must now bear a Division 6.1 hazard label in addition to the Class 3 label.

**A112**—Has been revised to identify that ID 8000, **Consumer commodity** can now also include aviation regulated substances, UN 3334 and UN 3335.

**A181**—Has been revised to more clearly describe the requirements for packages that contain both lithium batteries packed with equipment and lithium batteries contained in equipment.

**A202**—Is a new special provision assigned to a number of entries for Division 2.2 gases to set out provisions for radiation detectors containing these Division 2.2 gases.

**A204**—Is a new special provision assigned to **Polymeric beads** that identifies under what circumstances polymeric beads can be considered to be non-dangerous goods.

**A211**—Is a new special provision assigned against the entries UN 1067, **Nitrogen dioxide** and UN 1660, **Nitric oxide, compressed** to provide for sterilisation devices that incorporate these substances. When in such sterilisation devices these substances may be shipped on passenger or cargo aircraft.

**A212**—Is a new special provision assigned against the entry UN 2031, **Nitric acid**, other than red fuming, with more than 20% and less than 65% nitric acid to provide for sterilisation devices that incorporate this substance. When in such sterilisation devices this substance may be shipped on passenger aircraft.

**A302** and **A324**—Have been revised to remove the requirement for the appropriate national authority of the State of destination to also approve the carriage of fish bins with oxygen or ceremonial flames.

**A331**—Is a new special provision assigned against UN 3480, **Lithium ion batteries** to identify the possible requirements for a shipper to be able to demonstrate to obtain an approval to ship lithium ion batteries at a state of charge in excess of 30% of the rated capacity of the battery.

## **5—Packing**

**5.0.1.3**—Dangerous goods in unit load devices and freight containers. The provisions have been revised to allow for unit load devices (ULD) that contain UN 3373 or ID 8000 to also contain dry ice as a refrigerant.

**5.0.1.12**—New provisions have been added to allow, with the approval of the authorities of the States of origin and of the operator, for the use of UN specification large packagings for articles that weigh in excess of 400 kg.

### **Packing Instructions**

**PI 200**—Has been revised to include new provisions for liquefied gases charged with a compressed gas to require the shipper to take both components into account when calculating the internal pressure in the cylinder. There are also additional provisions to require that shippers when charging cylinders must use qualified staff.

**PI 203** and **PI Y203**—These packing instructions have been revised to incorporate the provisions in PI 204, PI Y204 and PI 212. These packing instructions have now been deleted.

**PI 218**—Applicable to chemicals under pressure has been revised to include new provisions for liquids charged with a compressed gas to require the shipper to take both components into account when calculating the internal pressure in the cylinder.

**PI 220**—Is a new packing instruction added for engines and machinery powered by a flammable gas.

**PI 378**—Is a new packing instruction added for engines and machinery powered by a flammable liquid.

**PI 450** and **PI Y450**—Are new packing instructions added for polyester resin kits that have a solid base material classified in Division 4.1. These packing instructions mirror PI 370 and PI Y370, which apply to polyester resin kits with a flammable liquid base.

**PI 459**—Has been revised to include polymerizing substances (UN 3531 and UN 3532) with self-reactive substances.

**PI 603**—Is a new packing instruction for UN 3507, **Uranium hexafluoride, radioactive material, excepted package**, which is now classified with a primary hazard of Division 6.1. Consequently PI 877 has been deleted.

**PI 950** and **PI 951**—These packing instructions have been revised to remove provisions for engines.

**PI 954**—Has been revised to include allowance for UN 3373, **Biological substance, Category B** and ID 8000, **Consumer commodity** to be in a shipper loaded unit load device with the dry ice.

**PI 965 – PI 970**—Section IB of PI 965 and PI 968 and Section II of all of the lithium battery packing instructions have been revised to remove reference to the need for an additional document to accompany consignments of Section II lithium batteries. As of 1 January 2017 this document is no longer required. The lithium battery handling label, which is required on packages, has been replaced by a new lithium battery mark. The dimensions and colour of the new lithium battery mark are the same as for the lithium battery handling label, but all words have been removed and the UN number(s) is required to be applied. There is a 2-year transition period until 31 December 2018 to allow shippers to implement the lithium battery mark.

**PI 972**—Is a new packing instruction added for engines and machinery powered by a fuel classified only as environmentally hazardous.

## **6—Packaging Specifications and Performance Tests**

**6.4.2**—This subsection has been revised to bring in reference to new ISO standards and also to identify the period during which the ISO standards may be applied for manufacture and also after which time the standards may no longer be used.

## **7—Marking & Labelling**

There are numerous editorial amendments to change the word “marking” or “markings” to read “mark” or “marks”. This reflects the correct English usage where what is applied to a package is a “mark”, whereas “marking” is the act of applying the mark.

**7.1.5.5**—Are the new provisions that set out the requirements for the lithium battery mark. The specification of the lithium battery mark is shown as Figure 7.1.C. The new mark comes into effect as of 1 January 2017 with a 2-year transition period during which time either the lithium battery mark or the lithium battery handling label may be applied to packages containing lithium batteries prepared in accordance with Section IB or Section II of the lithium battery packing instructions.

**7.2.2.4**—The provisions on additional text on hazard labels have been revised to identify that for the new Class 9 – Lithium Battery hazard label the only information permitted in the bottom half of the label is the pictogram and the class number.

**7.3.18**—The specification of the new Class 9 – Lithium Battery hazard label has been added as a new Figure 7.3.X. The new hazard label comes into effect as of 1 January 2017 with a 2-year transitional period during which time either the existing Class 9 – Miscellaneous Dangerous Goods hazard label or the new Class 9 – Lithium Battery hazard label may be applied to packages containing lithium batteries prepared in accordance with Section I, IA or IB of the lithium battery packing instructions.

## **8—Documentation**

**8.1.6.9.1**—A note has been added to identify that notwithstanding the change to the UN numbers and division / class for “engines”, that shippers may still consign engines as UN 3166 in Class 9 until 31 March 2017.

**8.1.6.9.2**—Clarification has been added on how the identification number for multiple overpacks should be shown.

**8.1.6.9.4, Step 9**—The list of special provision numbers that are required to be shown in the “authorisations” area of the Shipper’s Declaration has been revised.

**8.1.6.11.7**—The paragraph identifying that for shipments of lithium batteries prepared under Section IB of PI 965 and PI 968 that the information required on the additional document may be included on the Shipper’s Declaration or may be on an additional document has been deleted as the additional document is no longer required.

**8.1.6.13** and **8.1.6.14**—Have each been revised to remove the mandatory requirement for title of the signatory and the place that the Shipper’s Declaration was signed. This information may still be provided, but is no longer mandatory.

## **9—Handling**

Notes have been added under 9.0 to reference Annex 19 – Safety Management Systems and the ICAO Safety Management Manual. All operators are required to implement a Safety Management System (SMS) and the carriage of dangerous goods is included within the scope of the operator’s SMS.

**9.1.3.2**—A new paragraph has been added to require that the operator must be able to identify the person who performed the acceptance check.

**9.1.4.1**—The provisions for acceptance of a shipper loaded unit load device (ULD) containing dry ice have been revised to also allow UN 3373 or ID 8000 to be in the ULD with dry ice.

**9.1.9**—A new paragraph has been added recommending that operators conduct a safety risk assessment for the transport of dangerous goods.

**9.5.1.1.3**—The information required on the written information to the pilot-in-command (NOTOC) has been revised to clarify that for ID 8000 the gross weight of each package may be the average gross weight when this is what has been declared on the Shipper’s Declaration.

**9.6.2**—The reporting of dangerous goods in passenger baggage by operator has been revised to limit the submission of reports by the operator to those where the dangerous goods have been discovered by the operator, or the operator has been advised by the entity that discovered the dangerous goods, e.g. security screeners.

**9.8.2**—The acceptance checklist retained on file must now include identification of the person who performed the acceptance check.

## **Appendix A—Glossary**

There are a number of changes and additions to the defined terms in the glossary. These include:

- addition of a definition for “design life” for composite cylinders;
- new definition for “self-accelerating polymerization temperature” to address the new provisions for polymerizing substances;
- new definition for “service life” for composite cylinders.

**Appendix C**—There are revisions to the list of organic peroxides.

**Appendix D**—Contact details for competent authorities have been updated.

**Appendix E**—Changes have been made to the list of UN Specification Packaging Suppliers (E.1) and the Package Testing Facilities (E.2).

**Appendix F**—The list of Sales Agents (F.2), IATA Accredited Training Schools (F.3—F.5) and IATA Authorised Training Centres (F.6) have been revised.

**Appendix H**—A new appendix has been added for this edition to provide the draft changes to address the implementation of competency-based dangerous goods training. The purpose of this material is to invite comments from all segments of industry: shippers, forwarders, ground handling agents, operators and training providers on potential changes to Subsection 1.5 to implement competency-based dangerous goods training.