

Significant Changes and Amendments to the 2017-18 Edition of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (TIs)

Civil Aviation Department

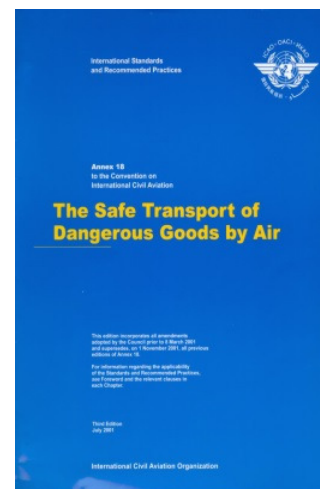
15 December 2016

Significant Changes and Amendments in the TIs 2017-2018

Most requirements are to be effective on 1 January 2017, unless otherwise stated.



1. DG classification criteria, UN No. & P.I. for engines and machinery
2. Addition of Provisions for Polymerizing substances
3. DG Marking requirements
4. Self balancing vehicles
5. Lithium Batteries



1) DG classification criteria, UN No. & P.I. for ENGINE and MACHINERY

At present (until 31 December 2016) –

Proper Shipping Name	UN No.	DG Class/ Division	PI Pax a/c	PI CAO
Engine, fuel cell, flammable gas powered	3166	9	Forbidden	951
Engine, fuel cell, flammable liquid powered	3166	9	950	950
Engine, internal combustion, flammable gas powered	3166	9	Forbidden	951
Engine, internal combustion, flammable liquid powered	3166	9	950	950



1) DG classification criteria, UN No. & P.I. for ENGINE and MACHINERY

With effective from 1 January 2017

(transition period until 31 March 2017) –

Proper Shipping Name	UN No.	DG Class/ Division	PI Pax a/c	PI CAO
Engine, fuel cell, flammable gas powered	3529	2.1	Forbidden	220
Engine, fuel cell, flammable liquid powered	3528	3	378	378
Engine, internal combustion, flammable gas powered	3529	2.1	Forbidden	220
Engine, internal combustion, flammable liquid powered	3528	3	378	378

Special provisions



1) DG classification criteria, UN No. & P.I. for ENGINE and MACHINERY

With effective from 1 January 2017

➤ New entries in DG list

Proper Shipping Name	UN No.	DG Class/ Division	PI Pax a/c	PI CAO
Engine, internal combustion	3530	9	972	972

➤ Special provisions



1) DG classification criteria, UN No. & P.I. for ENGINE and MACHINERY

With effective from 1 January 2017

New entries in DG list

Proper Shipping Name	UN No.	DG Class/ Division	PI Pax a/c	PI CAO
Machinery, fuel cell, flammable gas powered	3529	2.1	Forbidden	220
Machinery, fuel cell, flammable liquid powered	3528	3	378	378
Machinery, internal combustion	3530	9	972	972
Machinery, internal combustion, flammable gas powered	3529	2.1	Forbidden	220
Machinery, internal combustion, flammable liquid powered	3528	3	378	378

Special Provisions



2) Addition of Provisions for Polymerizing Substances

- Addition of polymerizing substances in Division 4.1 DG Flammable Solids

Division 4.1 Flammable solids, self-reactive and related substances and solid desensitized explosives **and polymerizing substances**



2) Addition of Provisions for Polymerizing Substances

➤ New entries in DG list

Proper Shipping Name	UN No.	DG Class/ Division	PI Pax a/c	PI CAO
Polymerizing substance, liquid, stabilized, n.o.s.*	3532	4.1	459	459
Polymerizing substance, liquid, temperature controlled, n.o.s.*	3534	4.1	Forbidden	Forbidden
Polymerizing substance, solid, stabilized, n.o.s.*	3531	4.1	459	459
Polymerizing substance, solid, temperature controlled, n.o.s.*	3533	4.1	Forbidden	Forbidden

➤ Special Provision A209



Reminder

- Shippers are responsible for ensuring dangerous goods are classified properly for air transport.



3) DG Marking Requirements

- Clarification of marking requirements for overpacks containing DG –
 - packed in **limited quantities**
 - packed in **excepted quantities**
- ‘overpack’ mark with lettering at least 12mm high

Overpack



min. 12mm

3) DG Marking Requirements

- Clarification of requirements for the size of marks required by **special provisions**.
- Where a special provision includes a requirement for package marking... the size of mark must be at least 12mm, unless otherwise indicated.

4) Self-balancing Vehicles

- Revision to Special Provision A21
- Addition of examples for vehicles
 - Self-balancing vehicles or vehicles not equipped with at least one seating position
 - Bicycles (pedal cycles with an electric motor)



4) Self-balancing Vehicles

- UN 3171 Battery-powered vehicle
- Class 9 DG
- PI 952



- Where vehicles could possibly be handled in other than an upright position, the vehicle must be secured in a strong, rigid outer packaging of the types specified in PI 952.
- The vehicle must be secured by means capable of restraining the vehicle in the outer packaging to prevent any movement during transport which would change the orientation or cause the vehicle to be damaged.

5) Lithium Batteries

i) Definition of Equipment

- UN 3481 Lithium ion batteries packed with equipment -- PI 966
- UN 3481 Lithium ion batteries contained in equipment -- PI 967
- UN 3091 Lithium metal batteries packed with equipment -- PI 969
- UN 3091 Lithium metal batteries contained in equipment -- PI 970

- Clarification --

‘Equipment’ means apparatus for which the lithium cells or batteries will provide electrical power for its operation.

5) Lithium Batteries

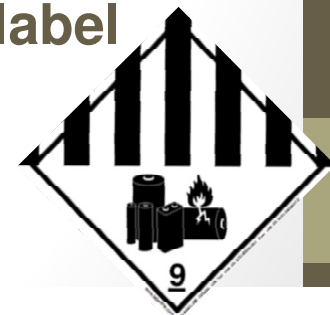
ii) Mark & Label (With effective from 1 January 2017 ,
transition period until 31 December 2018)

- Replacement of lithium battery handling label with lithium battery mark



- UN Number(s)
- Tel. Number

- Addition of new lithium battery Class 9 hazard label



5) Lithium Batteries

iii) Special Provision A181

- When a package contains a combination of lithium batteries contained in equipment, and lithium batteries packed with equipment....

Packing requirements

- a) Shipper must ensure all applicable parts of both packing instructions are met.
- Shipper must ensure the total mass of lithium batteries contained in any package must not exceed the limits for passenger aircraft or cargo aircraft.

5) Lithium Batteries

iii) Special Provision A181 (continued) –

- When a package contains a combination of lithium batteries contained in equipment, and lithium batteries packed with equipment....

Marking requirements

- b) the package must be marked UN 3091 Lithium metal batteries packed with equipment, or UN 3481 Lithium ion batteries packed with equipment, as appropriate.
- If a package contains both lithium metal and lithium ion batteries packed with and contained in equipment, the package must be marked as required for both battery types.
- Button cell batteries installed in equipment (incl. circuit boards) need not be considered.

5) Lithium Batteries

iii) Special Provision A181 (continued) –

- When a package contains a combination of lithium batteries contained in equipment, and lithium batteries packed with equipment....

Documentation requirements

- c) DGD must include UN 3091 Lithium metal batteries packed with equipment, **or** UN 3481 Lithium ion batteries packed with equipment, as appropriate.
- If a package contains both lithium metal and lithium ion batteries packed with and contained in equipment, the DGD must indicate UN 3091 Lithium metal batteries packed with equipment, **and** UN 3481 Lithium ion batteries packed with equipment.

5) Lithium Batteries

iv) When a package contains a combination of **section II** lithium batteries contained in equipment, and lithium batteries packed with equipment....

section II PI966, PI969

- Shipper must ensure all applicable parts of both packing instructions are met. Shipper must ensure the total mass of lithium batteries contained in any package must not exceed 5 kg.
- The words “lithium ion batteries, in compliance with section II of PI966” **or** “lithium metal batteries, in compliance with section II of PI969”, as appropriate, must be placed on the air waybill, when an air waybill is used.

5) Lithium Batteries

v) Re-cap – Requirements included in 2017-2018 Edition of TI and already applicable on 1 April 2016

UN 3480 lithium ion batteries

- **Prohibition on transport as cargo on passenger aircraft**
- **State of charge not exceeding 30% of their rated capacity.**

5) Lithium Batteries

v) Re-cap – Requirements included in 2017-2018 Edition of TI and already applicable on 1 April 2016 (continued)

UN 3480 lithium ion batteries, section II of PI965

UN 3090 lithium metal batteries, section II of PI968

- Shipper is not permitted to offer for transport more than 1 package of section II PI965 / PI968 in any single consignment.
- No more than 1 package of Section II PI965 / PI968 may be placed into an overpack.
- Packages and overpacks must be offered to aircraft operator separately from non-DG cargo, and must not be loaded into a ULD before offering to aircraft operator.

The industry shall refer to the current edition of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (or IATA's DGR) for the complete requirements on air transport of dangerous goods.

THANK YOU