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CIVIL AVIATION DEPARTMENT

Significant Changes and Amendments of the 2025-2026 Edition of the

ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air ("TI")

Civil Aviation Department
13 December 2024

Significant Changes and Amendments of the TI 2025-2026

Effective on 1 January 2025, unless otherwise stated

1. Revisions relevant to devices to be transported when active, such as data loggers / cargo tracking devices
2. Revisions to battery provisions
3. Other revisions
    1. Dimensions of certain Class 7 packages to be indicated on DG transport document
    2. Allowance for machine readable information on packages of PI 650 (UN 3373)
    3. DG training and assessment records
    4. Making information used to classify DG available to the authority upon request

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1. Revisions relevant to devices to be transported when active, such as data loggers / cargo tracking devices

1.1 New exception for data loggers and cargo-tracking devices with installed lithium batteries

A new General exception (Paragraph 1.1.5.1 i) of Part 1) has been added – **Data loggers** and **cargo tracking devices** with **installed lithium batteries**, attached to or placed in packages, overpacks or unit load devices are not subject to any provisions of these Instructions provided the specified conditions are met.

1) the data loggers or cargo tracking devices must be **in use** or **intended for use** during transport;
2) each cell or battery must meet the provisions of Part 2;9.3 a), e), f) (if applicable) and g);
3) for a **lithium ion cell**, the Watt-hour rating **not exceeding 20 Wh**;
4) for a **lithium ion battery**, the Watt-hour rating **not exceeding 20 Wh**;
5) for a **lithium metal cell**, the lithium content **not exceeding 1 g**;
6) for a **lithium metal battery**, the aggregate lithium content **not exceeding 1 g**;

Note.— This exception does not apply where the data loggers or cargo tracking devices are offered for transport as a consignment in accordance with Packing Instruction 967 or 970.

1.1 New exception for data loggers and cargo-tracking devices with installed lithium batteries (cont'd)

A new General exception (Paragraph 1.1.5.1 i) of Part 1) has been added – **Data loggers** and **cargo tracking devices** with **installed lithium batteries**, attached to or placed in packages, overpacks or unit load devices are not subject to any provisions of these Instructions provided the specified conditions are met:

7) the **number of data loggers or cargo tracking devices** in or on any package or overpack must be **no more than the number required** to track or to collect data for the specific consignment;

8) the data loggers or cargo tracking devices **must be capable of withstanding the shocks and loadings normally encountered during transport**;

9) the devices must **not be capable of generating a dangerous evolution of heat**; and

10) the devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems.

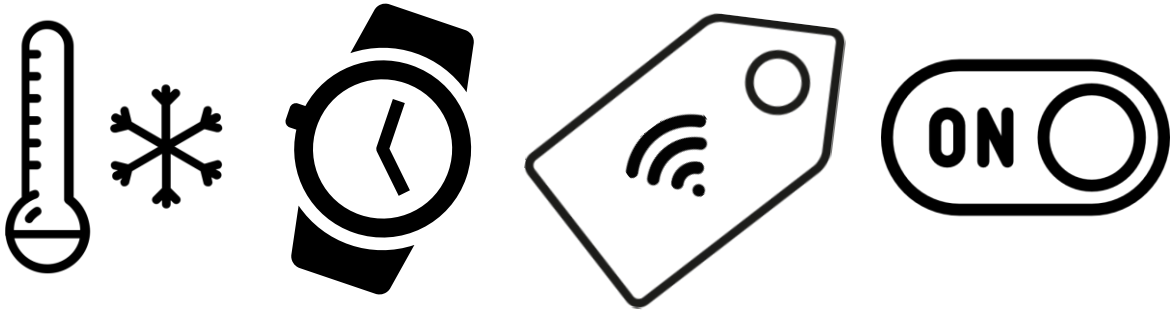
Note.— This exception does not apply where the data loggers or cargo tracking devices are offered for transport as a consignment in accordance with Packing Instruction 967 or 970.

1.2 Allowance for devices containing dry / nickel-metal hydride batteries to be transported when active

Special Provision A123 and A199

A new paragraph was added to these Special Provisions **allowing dry or nickel-metal hydride battery powered devices to be transported when active:**

→ Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, **may be transported when intentionally active**. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems. The devices must not be capable of emitting disturbing signals (such as buzzing alarms, strobe lights, etc.) during transport



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2. Revisions to battery provisions

2.1 New entries – Sodium ion batteries

New entries to Table 3-1 List of DG and new packing instructions (PI)

	UN no.	Proper Shipping Name	PI	Sections
NEW	UN 3551	**Sodium ion batteries**	PI 976	N/A
NEW	UN 3552	**Sodium ion batteries packed with equipment**	PI 977	I, II
NEW	UN 3552	**Sodium ion batteries contained in equipment**	PI 978	I, II

*Note: Corresponding **packing instructions for sodium ion batteries largely resemble those of lithium ion batteries but they are not entirely the same**, shippers should be careful in reviewing the detailed provisions when preparing shipments containing such batteries*

Renaming of UN 3292 **Batteries / Cells containing sodium** to:

- UN 3292 **Batteries, containing metallic sodium or sodium alloy**
- UN 3292 **Cells, containing metallic sodium or sodium alloy**

Note: Unlike lithium batteries, there is no such entries as "sodium metal batteries"

2.2 Battery mark and hazard label

“Lithium battery mark” renamed as

“Battery mark”

- Renamed to cater for sodium ion batteries addition.
- There is no change to the appearance or dimensions

Applicable to:

Section IB of PI965 & 968

Section II of PI966, 967, 969, 970, 977 & 978

Note – The mark in the 2021-2022 Edition may continue to be applied until 31 December 2026.

Figure 5-3. ~~Lithium b~~Battery mark

2.2 Battery mark and hazard label (cont'd)

"Lithium batteries, Class 9" label renamed as

"Lithium batteries or sodium ion batteries, Class 9"

- Renamed to cater for sodium ion batteries addition.
- There is no change to the appearance or dimensions

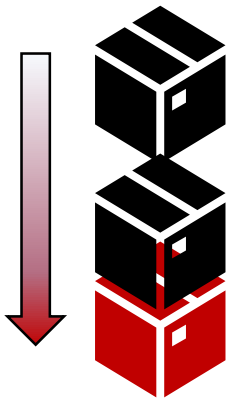
Applicable to:

PI976, Section IA, IB or I of PI965 – 970 & PI977 – 978

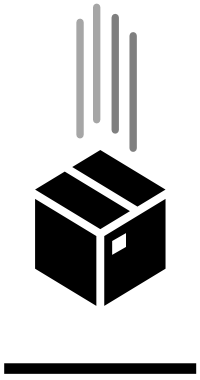
Figure 5-26. Miscellaneous dangerous goods — lithium batteries or sodium ion batteries, Class 9

2.3 Notable battery provisions

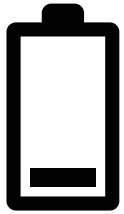
- **Stack test (to a height of 3 meters for 24 hours)**
  - **Lithium batteries:** Section IB of PI965 & 968 **(existing)**
  - NEW **Lithium batteries:** Section II of PI966 & 969, Section I & II of PI967 & 970
- **Drop test (from height of 1.2m)**
  - **Lithium batteries:** Section IB / II of PI965, 966, 968 & 969 **(existing)**
  - NEW **Sodium ion batteries:** Section II of PI977
- **Limit on State of Charge (≤ 30%) / Battery capacity (≤ 25%)**
  - **Mix** of NEW **requirement / recommendation** across various Lithium ion battery Packing Instructions



3m stack test



1.2m drop test



SoC ≤ 30%

Battery cap. ≤ 25%

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2.3 Notable battery provisions (cont'd)

UN No.	PI	Drop Test	Stack Test	Transport at reduced SoC
UN 3480 UN 3090	PI 965 / 968 Section IA	UN PG II	UN PG II	PI965 only Mandatory – SoC ≤ 30% of rated capacity
	PI 965 / 968 Section IB	Yes	Yes	
UN 3481 UN 3091	PI 966 / 969 Section I	UN PG II	UN PG II	-
	PI 966 / 969 Section II	Yes	-	-
	PI 967 / 970 Section I	-	-	-
	PI 967 / 970 Section II	-	-	

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2.3 Notable battery provisions (cont'd)

UN No.	PI	Drop Test	Stack Test	Transport at reduced SoC
UN 3480 UN 3090	PI 965 / 968 Section IA	UN PG II	UN PG II	PI965 only Mandatory – SoC ≤ 30% of rated capacity
	PI 965 / 968 Section IB	Yes	Yes	
UN 3481 UN 3091	PI 966 / 969 Section I	UN PG II	UN PG II	**PI966 only – SoC ≤ 30% of rated capacity** NEW **Until 31 Dec 2025 – Recommend** **From 1 Jan 2026 – Mandatory**
	PI 966 / 969 Section II	Yes	NEW **Yes**	**PI966 only – SoC ≤ 30% of rated capacity** NEW **Until 31 Dec 2025 – Recommend** **From 1 Jan 2026 –** • **Cells and batteries > 2.7 Wh – Mandatory** • **Cells and batteries ≤ 2.7 Wh – Recommend**
	PI 967 / 970 Section I	-	NEW **Yes**	**PI967 only – Recommend** NEW • **SoC ≤ 30% of rated capacity, or** • **Indicated battery capacity ≤ 25%**
	PI 967 / 970 Section II	-	NEW **Yes**	
NEW **UN 3551**	**PI 976**	**UN PG II**	**UN PG II**	**Mandatory - SoC ≤ 30% of rated capacity**
NEW **UN 3552**	**PI 977 Section I**	**UN PG II**	**UN PG II**	-
	PI 977 Section II	**Yes**	-	-
	PI 978 Section I	-	-	-
	PI 978 Section II	-	-	-

2.4 New entries with PI 952 assigned and provisions for reduced state of charge (SoC)

New entries with PI 952 assigned to provide ability to differentiate between vehicles powered by different battery types and apply more specific risk mitigation measures:

- NEW **UN 3556 Vehicle, lithium ion battery powered**
- NEW **UN 3557 Vehicle, lithium metal battery powered**
- NEW **UN 3558 Vehicle, sodium ion battery powered**

3-month transition period during with vehicles powered by lithium batteries can be identified on the DG transport document as **UN 3171 Battery powered vehicle**

→ *Until 31 March 2025, shippers may identify vehicles powered by lithium batteries, UN 3171 — **Battery powered vehicle** as shown in the 2023-2024 Edition of these Instructions. The marks and labels applied, when required, must be consistent with the information shown on the dangerous goods transport document.*

2.4 New entries with PI 952 assigned and provisions for reduced state of charge (SoC) (cont'd)

Provisions on Reduced State of Charge (SoC) in PI 952

UN 3556 **Vehicle, lithium ion battery powered**

UN 3557 **Vehicle, lithium metal battery powered** when the battery is rechargeable

UN 3558 **Vehicle, sodium ion battery powered**

To be offered for transport with the battery(ies) at a **SoC not exceeding 30%** of their rated capacity; or **an indicated battery capacity not exceeding 25%**

12-month transition period :

- Until **31 December 2025** - **Recommendation**
- From **1 January 2026 –**
  - **Vehicles powered by batteries > 100 Wh – Mandatory**
  - **Vehicles powered by batteries ≤ 100 Wh – Recommendation**

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3. Other revisions

3.1 Dimensions of certain Class 7 packages to be indicated on DG transport document

For **Category II-Yellow** and **Category III-Yellow** only, the following information must be included on the DG transport document:

- *"the **dimensions** including dimensional units of each **package**, or when placed in an overpack or freight container, the dimensions of the **overpack**, or the **freight container** as applicable. The dimensions should be shown in the following order: length x width (or diameter, if applicable) x height. "L", "W" (or "D"), "H" may be shown immediately preceding their respective dimension. When a different order is used, the letters "L", "W" (or "D") and "H" must be shown accordingly"*

3.2 Allowance for machine readable information on packages of PI 650 (UN 3373)

For UN 3373 **Biological substance, Category B** which are packed and marked in accordance with **PI 650:**

> *"the name and address of the shipper and of the consignee must be **provided on each package**. The information may be applied through the use of a barcode, QR code or other equivalent means"*

3.3 DG training and assessment records

A minor revision has been applied to the requirements for DG training and assessment records, **where the records must include:**

a) The individual's name;
b) The month of completion of the most recent raining and assessment;
c) A description, copy or reference of training and assessment materials used to meet the training and assessment requirements;
d) the name and ~~address of~~ other information that identifies the organization providing the training and assessment (such as registered address); and
e) Evidence which shows that the personnel have been assessed as competent.

3.4. Making information used to classify DG available to the authority upon request

Where classification of the dangerous goods is made by the shipper, information used by the shipper to assign a classification **must be made available** to the appropriate national authority upon request, if requested within three months of the date on which the dangerous goods were transported.:

Note.— Examples of such information include:

a) the known composition of a substance;
b) the known physical characteristics of articles such as vehicles;
c) the results of classification testing and other applicable requirements as identified within Part 2 of these Instructions; or
d) a safety data sheet issued in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

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The industry is reminded to make reference to the current edition of the ICAO TI (or IATA DGR) for the complete requirements on air transport of dangerous goods.

Thank you