LITHIUM BATTERIES IATA DGR 55th EDITION

2014 LITHIUM BATTERIES REGULATIONS

An accompanying "**Transport Document**" is required for all Lithium Battery shipments under Section II.

Click on the document to enlarge



Step 1 – What type of battery are you shipping?

Lithium Ion Batteries

Rechargeable batteries commonly used in consumer electronics.

Most popular battery for portable electronic devices like laptops, mobile phones, MP3 players, camcorders etc. A fire involving Lithium Ion batteries can be extinguished by an aircraft halon fire extinguisher.

Lithium Metal Batteries

Non-rechargeable.

Longer life than the normal alkaline batteries and can be used in toys, cameras, etc.

A fire involving Lithium Metal batteries can NOT be extinguished by an aircraft halon fire extinguisher.

LITHIUM ION BATTERIES

Step 2 – How are you shipping them?

Batteries packed loose (in bulk)

Batteries packed with equipment (separately in the same package)

Batteries contained in equipment









LITHIUM METAL BATTERIES

Step 2 – How are you shipping them?

Batteries packed loose (in bulk)

Batteries packed with equipment (separately in the same package)

Batteries contained in equipment









LITHIUM ION BATTERIES

Step 3 – How much watt per hour* does your battery have?

Cells and
Batteries
≤ 2.7 watt/hour

Cells
> 2.7 watt/hour
but
≤ 20 watt/hour

Batteries
> 2.7 watt/hour
but
≤ 100 watt/hour

Cells
> 20 watt/hour
Batteries >
100 watt/hour

- A Cell is a single powered unit
- A Battery is a number of cells connected to each other

^{*}The watt per hour must be marked on the outside of the battery, for batteries manufactured since January 2009. Laptops, mobile phones and other small consumer electronics have batteries with less than 100 watt/hour (except perhaps some extra duration batteries – use the formula **Ampere hours x Voltage** in case the watt per hour is not marked on the battery).

LITHIUM METAL BATTERIES

Step 3 – How much Lithium does your battery contain?

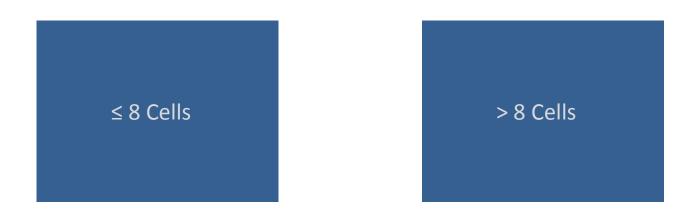
Cells and Batteries ≤ 0.3 g Cells > 0.3 g but ≤ 1 g Batteries > 0.3 g but ≤ 2 g Cells or Batteries

- A Cell is a single powered unit
- A Battery is a number of cells connected to each other



LITHIUM ION BATTERIES

Step 4 – How many caells does your package have in total?

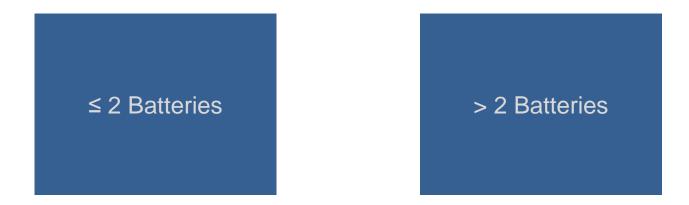






LITHIUM ION BATTERIES

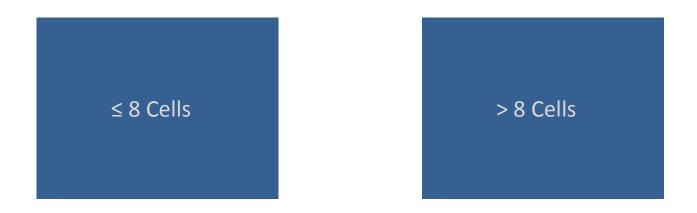
Step 4 – How many batteries does you package have in total?





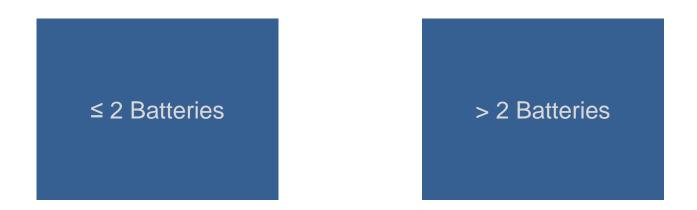
LITHIUM METAL BATTERIES

Step 4 – How many cells does you package have in total?





Step 4 – How many cells does you package have in total?





LITHIUM ION BATTERIES

Step 3 – How much watt per hour* does your battery have?

Cells
≤20 watt/hour
or Batteries
≤ 100 watt/hour

Cells
> 20 watt/hour
or Batteries
> 100 watt/hour

*The watt per hour must be marked on the outside of the battery, for batteries manufactured since January 2009. Laptops, mobile phones and other small consumer electronics have batteries with less than 100 watt/hour (except perhaps some extra duration batteries – use the formula **Ampere hours x Voltage** in case the watt per hour is not marked on the battery).



LITHIUM ION BATTERIES

Step 3 – How much watt per hour* does your battery have?

Cells
≤ 20 watt/hour
or Batteries
≤ 100 watt/hour

Cells
> 20 watt/hour
or Batteries
> 100 watt/hour

*The watt per hour must be marked on the outside of the battery, for batteries manufactured since January 2009. Laptops, mobile phones and other small consumer electronics have batteries with less than 100 watt/hour (except perhaps some extra duration batteries – use the formula **Ampere hours x Voltage** in case the watt per hour is not marked on the battery).



LITHIUM METAL BATTERIES

Step 3 – How much Lithum does your battery contain?

Cells ≤ 1 g or Batteries ≤ 2 g Cells
> 1 g
or Batteries
> 2 g



LITHIUM METAL BATTERIES

Step 3 – How much Lithum does your battery contain?

Cells ≤ 1 g or Batteries ≤ 2 g Cells
> 1 g
or Batteries
> 2 g



LITHIUM ION BATTERIES

Step 4 – How many cells/batteries does your package have in total?

≤ 4 Cells or ≤ 2 Batteries

> 4 Cells or > 2 Batteries



LITHIUM METAL BATTERIES

Step 4 – How many cells/batteries does your package have in total?

≤ 4 Cells or ≤ 2 Batteries

> 4 Cells or > 2 Batteries



UN3480, Lithium Ion Batteries – Packing Instruction 965 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|------------------|--|--|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer | 1.2m drop tested | The following statement is required on the waybill: "Lithium Ion Batteries in compliance with Section II of PI965" An accompanying document which states the following: | CAUTION: The April 1999 And April 1 | Booking mentioning Section II is required |
| packaging (no UN specification required) Strong outer packaging Maximum 2.5 kg net quantity per package | | "Package contains Lithium ion cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXX XXX" | | Notoc entry required |

UN3480, Lithium Ion Batteries – Packing Instruction 965 Section IA



| Packaging | Package Tests | Documentation | Labeling | LAN Product Available |
|--|---|---|---|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in an outer packaging UN specification packaging Maximum 5 kg Net quantity per package for PAX shipments Maximum 35 kg Net quantity per package for CAO shipments PAX = Passenger aircraft CAO = Cargo aircraft | Packing Group II performance standards | Shipper's Declaration Master Air Waybill | (CAO if applicable) CAROD AIRCRAFT ONLY Notoc 6 | Booking mentioning Section II is required |

UN3480, Lithium Ion Batteries – Packing Instruction 965 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|------------------|---|-----------------|--|
| Each cell must be - protected against a short circuit - placed in inner packagings that | 1.2m drop tested | The following statement is required on the waybill: "Lithium Ion Batteries in compliance with Section II of PI965" | CAUTION: | Booking mentioning Section II is |
| completely enclose the cell/battery then placed in a strong rigid outer | | An accompanying document which states the following: | NUMBER PROPERTY | required |
| packaging (UN specification not required) | | "Package contains Lithium ion cells or batteries. Handle with care. When package is damaged can cause fire. Special | | Notoc ontru |
| Strong outer packaging | | procedures should be followed: inspect the package and arrange repack by qualified | | Notoc entry required |
| Maximum 8 cells per package | | persons when required. Contact Nr: 00XX XXXX XXX" | | |

UN3480, Lithium Ion Batteries – Packing Instruction 965 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|------------------|---|---|--|
| Each battery must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed | 1.2m drop tested | The following statement is required on the waybill: "Lithium Ion Batteries in compliance with Section II of PI965" An accompanying document which states the following: | CAUTION! I A A A A A A A A A A A A A A A A A A | Booking mentioning Section II is required |
| in a strong rigid outer packaging (UN specification not required) Strong outer packaging Maximum 2 batteries per package | | "Package contains Lithium ion cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX | | Notoc entry required |



UN3480, Lithium Ion Batteries – Packing Instruction 965 Section IB

| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|------------------------|--|--|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer packaging (no UN specification required) Maximum 10 kg gross weight per package for PAX & CAO PAX = Passenger aircraft CAO = Cargo aircraft | 1.2m drop tested | Shipper's Declaration The following statement is required on the AWB/MAWB: "Dangerous Goods as per attached DGD" or "Dangerous Goods as per attached Shipper's Declaration" An accompanying document which states the following: with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX" "Package contains lithium ion cells or batteries. Handle | CAUTION: I DO NOT LOVE THE BASE OF THE PROPERTY OF THE PROPER | Booking mentioning Section II is required |

UN3481, Lithium Ion Batteries packed with equipment – Packing Instruction 966 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|------------------------|---|---|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in an outer packaging (UN specification not required) | 1.2m drop tested | The following statement is required on the waybill: "Lithium Ion Batteries in compliance with Section II of PI966" An accompanying document which states the following: | CAUTION! I DE LOS DE TRANSOR TOTAL DE TRANSOR | Booking mentioning Section II is required |
| Maximum number of Batteries: those necessary to power the equipment plus 2 spares Maximum 5 kg net qty of Lithium batteries or cells per package | | "Package contains Lithium ion cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXX XXX" | | Notoc entry required |

UN3481, Lithium Ion Batteries – Packing Instruction 966 Section I



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|---|---|---------------------|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in an outer packaging UN specification packaging Max. 5 kg net qty (excl. equipment) for PAX shipments Max. 35 kg net qty (excl.equipment) for CAO shipments | Packing Group II performance standards for the package containing batteries | Shipper's Declaration Master Air Waybill | (CAO if applicable) | Booking mentioning Section II is required |
| CAO = Cargo aircraft | | | Notoc 6 | entry required |

UN3481, Lithium Ion Batteries contained i equipment - Packing Instruction 967 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|--|---|--|---|
| Each battery/cell must be protected against short circuit and unintended movement. Devices containing batteries or cells must be protected against accidental activation. UN specification packaging is not required. Equipment with batteries must be placed in outer packaging of suitable construction and strength so as to provide adequate protection, unless the battery is afforded equivalent protection by the equipment in which it is contained. Max. 5 kg net quantity of Lithium-Ion cells/batteries per package (excluding equipment). | Strong package equivalent to its capacity and intended use | The following statement is required on the waybill: "Lithium Ion Batteries in compliance with Section II of PI967" An accompanying document which states the following: "Package contains Lithium ion cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX | CAUTION: I DO DE LOS DE LEANE DE LOS DE LOS DE LOS DE LEANE DE LOS DELOS DE LOS DELOS DE LOS DELOS DE | Booking mentioning Section II is required Notoc entry required |

UN3481, Lithium Ion Batteries contained in equipment – Packing Instruction 967 Section I



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|--|---|---------------------|--|
| Each battery/cell must be protected against short circuit and unintended movement. Devices containing batteries or cells must be protected against accidental activation. UN specification packaging not required. Equipment with batteries must be placed in outer packaging of suitable construction and strength so as to provide adequate protection, unless the battery is afforded equivalent protection by the equipment in which it is contained. Max. 5 kg net (excl. equipment) for PAX shipments Max. 35 kg net (excl. equipment) for CAO shipments PAX = Passenger aircraft | Strong package equivalent to its capacity and intended use | Shipper's Declaration Master Air Waybill | (CAO if applicable) | Booking mentioning Section II is required |
| CAO = Cargo aircraft | | | Notoc | entry required |

UN3090, Lithium Metal Batteries – Packing Instruction 968 Section II

| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|------------------------|--|--|--|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer packaging (UN specification not required) Maximum 2.5 kg net quantity per package | 1.2m drop tested | The following statement is required on the waybill: "Lithium Metal Batteries in compliance with Section II of PI968" An accompanying document which states the following: "Package contains Lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX | CAUTION: I DE ALLER FORM THE PROPERTY OF THE | Booking mentioning Section II is required as CAO only Notoc entry required |



UN3490, Lithium Metal Batteries – Packing Instruction 968 Section IA

| Packaging | Package | Documentation | Labeling | LAN Product | |
|--|-------------|-----------------------|---------------------------------------|--------------------|--|
| | Tests | | | | |
| Each battery/cell must be | Packing | Shipper's Declaration | | | |
| - protected against a short circuit | Group II | Master Air Waybill | Allh | Booking required | |
| - placed in inner packagings that completely enclose | performance | Iviastei Ali vvaybili | \\// | as CAO only | |
| the cell/battery then placed in an outer packaging | standards | | | , | |
| If shipped as PAX: | | | (CAO if | | |
| - Batteries/cells must be packed in either a rigid | | | applicable) | | |
| metal intermediate or a metal outer packaging | | | | | |
| - Batteries/cells must be surrounded by cushioning | | | | | |
| material that is non-combustible / non-conductive | | | | | |
| UN-packaging required | | | CAROD AIRCRAFT | | |
| Max. 5 kg net (excl. equipment) for PAX shipments | | | PROCESSES OF CONTRACTOR OF CONTRACTOR | | |
| Max. 35 kg net (excl. equipment) for CAO shipments | | | | | |
| PAX = Passenger aircraft | | | Mot | Nata antono a la d | |
| CAO = Cargo aircraft | | | Not | oc entry required | |



UN3090, Lithium Metal Batteries – Packing Instruction 968 Section II

| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|------------------------|---|---|---|
| Each cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer packaging (UN specification not required) Maximum 8 cells per package | 1.2m drop tested | The following statement is required on the waybill: "Lithium Metal Batteries in compliance with Section II of PI968" An accompanying document which states the following: "Package contains Lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX" | CAUTION: I D D D D D D D D D D D D D D D D D D | Booking required as CAO only Notoc entry required |



UN3090, Lithium Metal Batteries – Packing Instruction 968 Section II

| Packaging Package Tests | | Documentation | Labeling | LAN Product |
|---|------------------------|---|--|------------------------------------|
| Each battery must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer packaging (UN specification not required) | 1.2m drop tested | The following statement is required on the waybill: "Lithium Metal Batteries in compliance with Section II of PI968" An accompanying document which states the following: "Package contains Lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures | CAUTION: I DESCRIPTION OF THE PROPERTY OF THE | Booking required as CAO only |
| Maximum 2 batteries per package | | should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXX XXX" | | Notoc entry required |



UN3090, Lithium Metal Batteries – Packing Instruction 968 Section IB

| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|---------------------|---|--|------------------------------------|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in a strong rigid outer packaging (no UN specification required) | 1.2m drop tested | Shipper's Declaration "Dangerous Goods as per attached DGD" or "Dangerous Goods as per attached Shipper's Declaration" An accompanying document which states the following: "Package contains lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXX XXX | CAUTION: I WE SOUND THE PLANE HE PARKET TO MAKE THE PARKET THE PAR | Booking required as CAO only |
| Maximum 2.5 kg gross weight per package for PAX & CAO | | | CAROO AIRCRAFT ONLY TOSS BIR S RANGEMENT (1920) | |
| PAX = Passenger aircraft CAO = Cargo aircraft | | | Noto | entry required |



Packing Instruction 969 Section II

LITHIUM BATTERIES

UN3090, Lithium Metal Batteries packed with equipment – Packing Instruction 969 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|------------------------|--|---|------------------------------------|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in an outer packaging (UN specification not required) | 1.2m drop tested | The following statement is required on the waybill: "Lithium Metal Batteries in compliance with Section II of PI969" An accompanying document which states the following: | CAUTION! I D D D D D D D D D D D D D D D D D D | Booking required as CAO only |
| Maximum number of batteries: those necessary to power the equipment plus 2 spares Max. 5 kg net qty of Limetal cells/ batt. per package (excl. equipment) | | "Package contains Lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXX XXX" | | Notoc entry required |

Shipping to the US?

UN3091, Lithium Metal Batteries packed with equipment – Packing Instruction 969 Section I



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|---|--|---------------------|------------------------------------|
| Each battery/cell must be - protected against a short circuit - placed in inner packagings that completely enclose the cell/battery then placed in an outer packaging If shipped as PAX: - Batteries/cells must be packed in either a rigid metal intermediate or a metal outer packaging - Batteries/cells must be surrounded by cushioning material that is non-combustible / non-conductive UN-packaging required Max. 5 kg net (excl. equipment) for PAX shipments Max. 35 kg net (excl. equipment) for CAO shipments | Packing Group II performance standards for the package containing batteries | Shipper's Declaration Master Air Waybill | (CAO if applicable) | Booking required as CAO only |
| PAX = Passenger aircraft CAO = Cargo aircraft | | | Notoc e | entry required |

UN3091, Lithium Metal Batteries contained in equipment – Packing Instruction 970 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|--|--|---|---|---|
| Each battery/cell must be protected against short circuit, any devices containing batteries or cells must be protected against accidental activation. UN specification packaging is not required. Equipment with batteries must be placed in outer packaging of suitable construction and strength so as to provide adequate protection, unless the battery is afforded equivalent protection by the equipment in which it is contained. Max. 5 kg net quantity of Limetal cells/batteries per package (excluding equipment) | Strong package equivalent to its capacity and intended use | The following statement is required on the waybill: "Lithium Metal Batteries in compliance with Section II of PI970" An accompanying document which states the following: "Package contains Lithium metal cells or batteries. Handle with care. When package is damaged can cause fire. Special procedures should be followed: inspect the package and arrange repack by qualified persons when required. Contact Nr: 00XX XXXX XXXX XXXX" | CAUTION: I D D D D D D D D D D D D D D D D D D | Booking required as CAO only Notoc entry required |



UN3091, Lithium Metal Batteries contained in equipment – Packing Instruction 970 Section I

| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|---|--|---|---------------------|--|
| Each battery/cell must be protected against short circuit, any devices containing batteries or cells must be protected against accidental activation. UN specification packaging is not required. Equipment with batteries must be placed in outer packaging of suitable construction and strength so as to provide adequate protection, unless the battery is afforded equivalent protection by the equipment in which it is contained. The quantity of lithium metal contained in any piece of equipment must not exceed 500 g per battery and 12 g per cell. Max. 5 kg net (excl. equipment) for PAX shipments Max. 35 kg net (excl. equipment) for CAO shipments PAX = Passenger aircraft CAO = Cargo aircraft | Strong package equivalent to its capacity and intended use | Shipper's Declaration Master Air Waybill | (CAO if applicable) | Booking required as CAO only entry required |

Shipping to the US?

ADDITIONAL REQUIREMENTS AS PER USG-02

Primary (non-rechargeable) lithium metal batteries and cells (UN 3090), are forbidden for transportation aboard passenger-carrying aircraft. Such batteries transported in accordance with **Section IA and IB of Packing Instruction 968** must be labelled with the **CARGO AIRCRAFT ONLY** label.

Primary (non-rechargeable) lithium metal batteries and cells contained in or packed with equipment (UN3091) prepared in accordance with **Section II of Packing Instruction 969 or 970**, and being non-conform to at least one of the following provisions:

- the package contains no more than the number of lithium metal batteries or cells necessary to power the intended piece of equipment
- the lithium content of each cell, when fully charged, is not more than 5 grams
- the aggregate lithium content of the anode of each battery, when fully charged, is not more than 25 grams
- the net weight of lithium batteries does not exceed 5 kg (11 lb)

must be marked

PRIMARY LITHIUM BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT or

LITHIUM METAL BATTERIES—FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT as appropriate.



UN3091, Lithium Metal Batteries contained in equipment – Packing Instruction 970 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|------------------------|------------------|---------------|----------|----------------|
| Strong outer packaging | N/A | N/A | N/A | N/A |
| | | | | |

UN3481, Lithium Metal Batteries contained in equipment – Packing Instruction 967 Section II



| Packaging | Package Tests | Documentation | Labeling | LAN Product |
|------------------------|------------------|---------------|----------|----------------|
| Strong outer packaging | N/A | N/A | N/A | N/A |