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Dangerous Goods Guidance – Introduction

What are Dangerous Goods?

Dangerous goods are a product line that the APC network deals with on a day-to-day basis. Dangerous Goods are any substances that can pose a hazard to the health and safety of people or may cause damage to property or the environment.

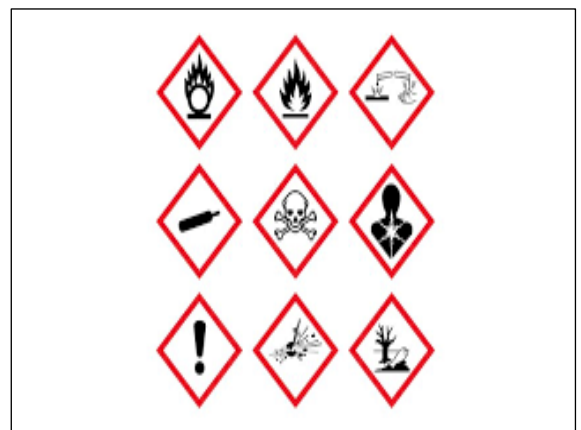
The Carriage of Dangerous Goods Regulations do not consider how an item will be used, they simply consider if an item may pose a hazard during transport or in the event of an emergency. Many products or objects commonly available are classified as hazardous for transport. Some examples can be seen below.




If a substance is found to meet the classification criteria for any of the 9 classes of dangerous goods, the transport of the goods must comply with the dangerous goods regulations for the mode(s) of transport used.

The APC Network transports Dangerous Goods in Limited Quantities only, which are restricted amounts of hazardous materials that are considered to pose a lower risk during transport.

- Class 1 Explosives
- Class 2 Gases
- Class 3 Flammable liquids
- Class 4 Flammable Solids, Other Flammable substance
- Class 5 Oxidizing Substances and Organic Peroxides
- Class 6 Toxic and Infectious Substances
- Class 7 Radioactive goods
- Class 8 Corrosive
- Class 9 Miscellaneous





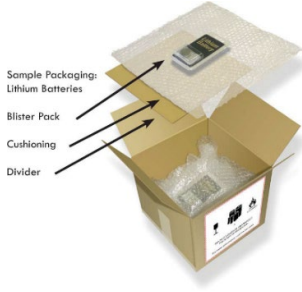
The carriage of dangerous goods is regulated by the main modes of transport used by parcel carriers to ensure it is done safely and to a uniform standard. For the APC network this is:

Mode	Regulation/Guidance	Scope	Limitations
	ADR/RID	Applies to all road/rail transport journeys	Refer to carrier's own restrictions

How are Dangerous Goods Regulated for Transport through the APC?

Hierarchy of restrictions:

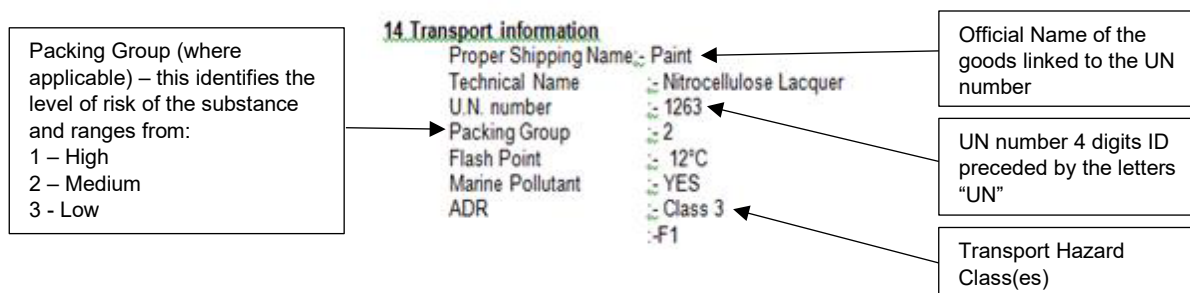
According to the degree of risk posed by the product, substance or article, it may be presented under the following provisions:

Limited Quantities	Excepted Quantities	Special Provision
Small quantity, lower risk goods	Very small quantity, lower risk goods	Can provide exemptions from the regulations
<p>Strong, robust combination packaging</p> <p>Package performance testing may be required</p> <p>Restriction on quantities and volumes (per container and per package)</p> <p>Package marking</p> <p>General awareness training</p> <p>Carriage notification and restrictions on large trailer loads</p>	<p>Strong, robust combination packaging</p> <p>Package performance testing required</p> <p>Restriction on quantities and volumes (per container and per package) – much lower thresholds than Limited Quantities</p> <p>Package marking</p> <p>General awareness training</p> <p>Restricted to maximum of 1000 packs per vehicle</p>	<p>Product specific conditions which when met may provide exemption from some or all the regulatory requirements</p> <p>May impose minimum packaging requirements to comply</p> <p>Carrier may require evidence that requirements of Special Provision have been met</p>
		

How to reference classification and identification using the Safety Data Sheet (SDS)

A Safety Data Sheet (SDS) identifies any health, safety and environmental risks associated with the use of a substance or article.

Section 14 of the SDS references the classification for **Transport**. This section provides all the information you will need to identify the goods and determine how the goods need to be prepared for transport:



Responsibilities

Shipper/Sender	Shipper/Sender	Shipper/Sender
The SDS you are referencing is considered up to date, meaning it has been issued or revised within the last 5 years	You present freight in accordance with requirements of current regulations as they are updated regularly	Have the SDS available. The APC central QHSE team will request a copy for your product and may not accept the goods without it

Responsibilities from sender to delivery

Shipper/Sender	Carrier	Driver
Packaged and presented in: <ul style="list-style-type: none"> • Accordance to DG Class • Relevant legislation for the transport mode • Fit for stress/strain of the journey 	<ul style="list-style-type: none"> • Continued assessment of shipper compliance • Goods presented meet acceptance procedures • All handlers are adequately trained aligned to duties/risk presented • Handled in a safe and reasonable manner 	<ul style="list-style-type: none"> • Complies with education and formal competence • Goods received in correct condition (undamaged) • Aware of limitations including rejection where transport requirements are not met



Responsibilities - ALWAYS REMEMBER

Dangerous goods transported in Limited Quantities will be carried with general freight. Therefore, they will be subject to the same conditions in transit which could include being:

- Loaded/unloaded multiple times
- Stacked, either underneath or on top of other products
- Sent down chutes and conveyors – this can mean other parcels impacting against the goods
- Dropped (not intentionally)
- Strapped/restrained
- Exposed to changes in climate i.e. temperature and pressure.
- Shock and vibration during carriage by road.

The sender is responsible for ensuring their parcels are properly labelled. The APC is not liable for any consequences resulting from incorrect or missing markings and labels on shipments.

Packaging

Limited Quantities	Excepted Quantities
Small quantity, lower risk goods	Very small quantity, lower risk goods
<p>Strong, robust combination packaging must be used (no single/loose containers)</p> <p>Packages should meet the same construction standard as UN specification but does not need to be UN approved</p> <p>Package performance testing may be required (drop and stacking tests)</p> <p>Must be capable of withstanding the stresses and strains of a parcel carrier network</p>	<p>Strong, robust combination packaging</p> <p>Must be triple packed with absorbent material</p> <p>Package performance testing required 1.8m drop test</p> <p>Package must bear the Excepted Quantities mark</p>
	

The packaging you choose needs to be able to withstand these forces, so it is important you select appropriate packaging. The APC recommends robust, minimum of 3-ply fibreboard boxes with intermediate packaging to fill any voids and prevent the inner containers from moving around inside the box. This falls inline with ADR Limited Quantities packaging regulations.

Packaging **may** be re-used if it retains its original performance.

Display packaging or cartons intended for palletised transport only **may not** be suitable i.e. crisp boxes

Sending customers **must not** rely upon “Fragile”, “Do Not Drop” or other similar warnings as a sole control.

Note The APC impose more restrictive requirements, e.g. double bag for liquid, additional void fill

Marking and Labelling

Package marking, and labelling must conform to the requirements of transport. All marking and labelling:

- Must be legible and durable on a white or contrasting background
- Should be displayed on one side of the package
- Must conform to minimum size requirements (for Limited Quantities, labels must be minimum 100mm x 100mm this may be reduced to 50mm x 50mm. If the package cannot physically display the mark on the face)
- Must not be obscured or overlapped and must be repeated on the outer layer of any over packing if the originals are no longer visible
- Any previous or irrelevant information **must** be removed or covered



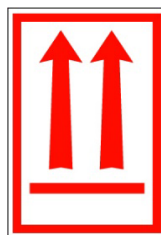
If multiple packages are consolidated or palletised for easier handling, the mark must be repeated on the outer surface with the words **“Overpack”**.

General Requirements

- All employees engaged in the preparation and loading of Dangerous Goods in Limited Quantities, must have received general awareness training commensurate with their duties, as per ADR 8.2.3
- The consignor is required to notify the carrier of the total gross mass of the goods to be consigned in a traceable form prior to carriage.
- Vehicles over 12T maximum mass carrying more than 8T of Limited Quantity goods must display the marking as shown above
- The carrier may impose additional packing requirements particularly for liquids, and request to see confirmation of training and packaging construction standards

Handling Labels

Additional handling labels may be required according to the regulations applicable to certain products or the way in which they should be presented.



Limited Quantities (ADR 3.4)

Products which may be prepared under the “Limited Quantities” provision are identified in column 7a of the ADR Regulations. The entry will describe the maximum net quantity (Litres or Kilos) permitted per inner receptacle/container.

(1)	(2)	(3b)	(3a)	(4)	(5)	(6)	(7a)
1266	PERFUMERY PRODUCTS with flammable solvents	3	F1	II	3	163 340c	5 L

Products not permitted to be shipped under the Limited Quantities provision are indicated by a zero in column 7a

Packaging Dangerous Goods in Limited Quantities

ADR Requirements

- The product must be contained in suitable inner receptacles, each not exceeding the total in column 7a of ADR
- Intermediate packaging must be used to fill voids, prevent movement and provide any additional protection needed (e.g. Corrosives in PG II must be packed in rigid intermediate packaging)
- An outer package of good quality, conforming to the relevant section of ADR part 4 describing the design and construction for UN specification packaging
- The total gross weight of the finished package, including internal packaging and any other items inside must not exceed 30kg.
- Where shrink wrapped trays are used, the maximum gross weight is reduced to 20kg

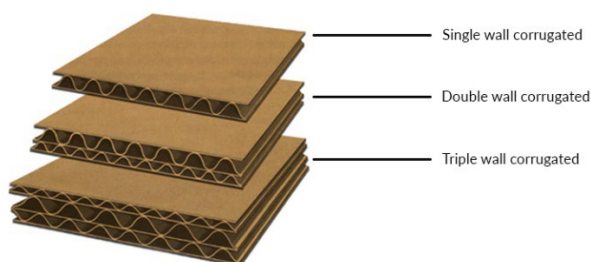
The finished package must be of sufficient strength and capacity to safely protect the contents from the conditions of transport.

The APC recommends that consignors should test the capability of their chosen packaging by conducting a stacking test and 1.2m drop tests.

APC-Overnight Requirements

We require that all Dangerous Goods (with exception of goods on shrink wrapped trays) that transit through the APC Hub to be contained in an outer cardboard box. The cardboard box should be triple walled, which, should provide a stable palletised or caged loading on the box of up to 50kgs. this will provide added protection for heavy or easily damaged goods.

Types of corrugated



Inside the outer box we require heavy duty plastic liners (as per the requirement for paint). The liners should be 200 microns/800-gauge gusseted bags suitable for transporting hazardous liquids.



If there is any leakage of the liquids, there should be an absorbent filler used in the base of the box and in between any inner receptacles. We recommend that customers use vermiculite.

Vermiculite is a non-flammable natural material that is used as an alternative to traditional loose fill. Vermiculite can absorb up to four times its weight in liquid, making it ideal for the safe transportation of dangerous liquids. Vermiculite also binds certain liquids, including paint, ink and acids and is also used for cushioning impacts.



Packing of Corrosives

- Use inner packaging made of materials resistant to the corrosive substance (e.g., plastic, glass with protective liners).
- Packing of corrosives **must** be in a 3-ply fibreboard box with intermediate packing to fill any voids to prevent the containers from moving around as a minimum.
- Each container must be individually bagged and sealed to prevent any potential spills from leaking.



Packing of Paint Products

- Paint containers **must** be bagged- to contain any leaks (before being boxed)
- Paint containers **must** be clipped – to avoid the lids coming off (before being boxed)



- Paint containers must be placed into a suitable cardboard box (as per APC-Overnight requirements)
- Boxes for paint containers must be strong enough to carry the contents- to avoid damages and help contain leaks

- When placing multiple paint containers into a box, each item must be suitably packaged as above- before placing in an outer box
- 2.5L paint tins, or larger (up to a maximum of 5L), must be packed in separate boxes.
- All paint shipments must be sent via the APC LQ (Limited Quantities) service
- Water based emulsions may be exempt from LQ requirements, authorisation must be requested from APC Health and Safety via LQ@apc-overnight.com
- All shipments must have an external marker advising the contents are paint (this is normally the LQ diamond label with UN 1263 written in the white area of the diamond)
- The LQ diamond must be displayed on at least two opposing sides of the box

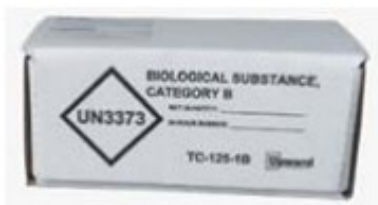


Biological, Refrigeration & Dry Ice

Biological substances (e.g. human or animal blood or urine samples, being sent for testing, diagnosis or research. Substances known or suspected to carry a harmful disease) are classified under section 6.2 of the Dangerous Goods regulations. These will be defined as:-

- **Category A** Infectious substances (UN2814/2900) - contain diseases causing death or serious injury which may be transmitted through contact following release in transport.
- **Category B** Biologic substances (UN3373) - contain diseases causing death or serious injury unlikely to be transmitted through contact following release in transport

Category A	Fully regulated Dangerous Goods	Can only be carried under full ADR transport requirements
Category B	Exempt from ADR, subject to Packing instruction compliance (P650) And marked as image below	All UN373 consignments must be sent to the central QHSE team for packaging tests. PURs for UN3373 will not be in scope



When refrigeration containing dry ice or gel packs is used to provide temperature control in transport, the outer package must provide insulation & be of sufficient strength to take the additional weight of the refrigerant.

When dry ice is used, the outer package must be vented & also marked **DRY ICE AS COOLANT**.

Dry ice can only be transported through the APC network as a coolant and not as a product in its own right.

Dangerous Goods in Excepted Quantities

What Are Excepted Quantities (EQ)?

- Dangerous Goods (DGs) in EQ are still classified as hazardous.
- EQ allows smaller quantities to be transported compared to Limited Quantities (LQ), but strict quantity and packaging rules apply.
- If packaging requirements are not met, the shipment must be treated as fully regulated DGs (e.g., as LQ or in-scope DGs).
- If a package contains multiple items and any are not eligible for EQ, the entire shipment must follow the next higher DG level which would be LQ.

Maximum Amounts Permitted for EQ Packages:

EQ code	Maximum per receptacle*	Maximum per package**
E0	Not permitted	Not permitted
E1	30	1000
E2	30	500
E3	30	300
E3	1	500
E5	1	300

*Solids in grams, liquids/gases in millilitres

**Combined total of all receptacles in the package.

Differences between the modes can be significant and those responsible for the marking and labelling of packages should understand the key differences.

Packaging Requirements for EQ

Triple Packaging System:

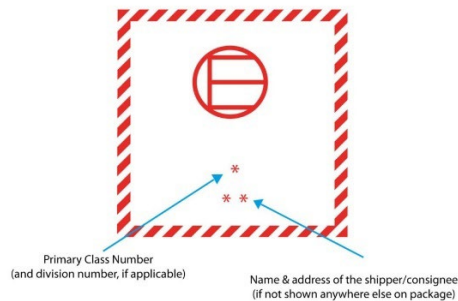
- Inner Packaging: Leak-proof containers (glass, metal, or plastic) with secure closures.
- Intermediate Packaging: Includes absorbent and cushioning material to handle leaks.
- Outer Packaging: Strong, rigid, and sized to fit all markings. Must pass drop and stack tests but doesn't need UN certification.

Labelling for EQ

- Hazard class labels are not required on EQ packages.
- The Excepted Quantities Label must be applied and include:
 - The primary hazard class (and division, if applicable).
 - Shipper/Consignee name and address (if not listed elsewhere).

Label Specifications:

- Size: Minimum 100x100 mm.
- Features: Red or black hatched border on a contrasting background, with a circled "E" symbol.



An overpack containing dangerous goods in Excepted Quantities must display the Excepted Quantities Label (as shown above) unless the markings on the individual packages in the overpack are clearly visible.

Lithium Batteries

Stand-alone Lithium batteries, power banks or articles containing Lithium batteries need to be shipped as fully regulated Dangerous Goods if the Lithium content or power rating exceeds a certain threshold.

Below this threshold these same articles may be prepared under a simplified system providing certain packaging and marking provisions are met.

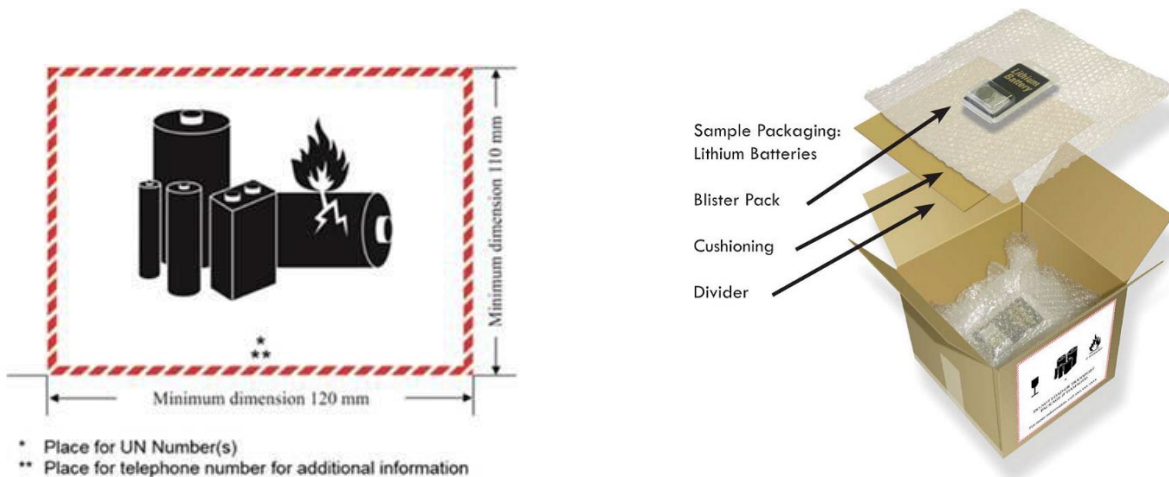
These are described in the regulations as **Special provision (SP)188 for sea and road**.

Minimum Packing Requirements

One of the major risks associated with the transport of batteries and battery-powered equipment is fire caused by the short circuit of the battery and as a result the battery terminals coming into contact with other batteries, metal objects, or conductive surfaces.

Methods to protect against short circuit include, but are not limited to, the following:

- Inner packaging controls, i.e. to completely enclose to avoid contact with conductive material or short circuit activation (if in equipment).
- Cushioning void fill to protect the articles and movement
- Exposed terminal or connectors are protected with non-conductive caps or tape.
- Protection eliminating accidental initiation of battery powered articles.
- Rigid outer packing, able to withstand 1.2m drop test.
- New lithium battery mark, and example of packaging requirements see below.



This marking requirement **does not apply** to:

- Packages containing only button cell batteries installed in equipment (including circuit boards)
- Packages containing no more than four cells, or two batteries installed in equipment and no more than two packages per consignment

Special Provisions

Some articles or substances classified as Dangerous Goods may be exempted from parts or all of the requirements of ADR provided certain conditions can be met under what are called “Special Provisions” (SP)

(1)	(2)	(3b)	(3a)	(4)	(5)	(6)	(7a)
1266	PERFUMERY PRODUCTS with flammable solvents	3	F1	II	3	163 340c	5 L

If SP applies, they will be referenced in Column 6, as a number see above, & then detailed in ADR section 3.3. The SP can only be applied where all conditions detailed are adhered to. The QHSE team may seek additional evidence and/or confirmation.

SP common examples:

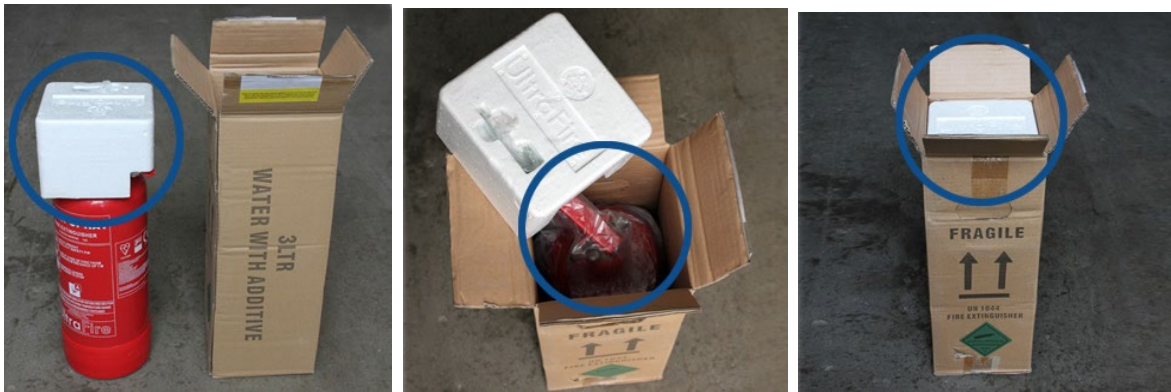
Product	UN number	SP number	Exemption Summary
Non-Spillable Lead Acid Battery	UN2800	238(b)	Not restricted if capable of surviving pressure and vibration tests, all liquid fully absorbed and cannot leak from a fractured case and terminals protected against short circuit likely to cause heat/fire
Environmentally hazardous substances	UN3077 & UN3082	375	Not restricted if well packaged and packed using inner receptacles of no more than 5L or 5kg each
Fire Extinguisher	UN1044	594	Not restricted if packaged to prevent inadvertent discharge under transport conditions
Alcoholic Beverage	UN3065	144 145	Not restricted if: below 24% alcohol by volume, or Between 24% and 70% in receptacles of no more than 250L
Small Gas Cylinder	UN2037	191	Aerosols and small cylinders, no more than 50ml of non-flammable/toxic gas are not restricted
Helium Gas Cylinder	UN1046	653	Cylinders of no more than 30kg gross and maximum 15.2MPa (152 bar.litre) can be shipped under reduced restrictions
Liquid Nitrogen cryogenic flasks	UN1977	593	Not restricted if transported in an insulated flask, with all liquid fully absorbed into the inner core

Fire Extinguishers

Fire extinguishers are heavy products and contain elements that can easily be broken or bent in transit (gauges, release-pins and handles), especially if the carrier places the extinguisher on its head or drops the extinguisher.

To ensure that the fire extinguisher gets to its destination in one piece and ready for the job it was intended for APC have a strict packaging policy for fire extinguishers.

- All extinguishers must be placed in 3 ply cardboard outer packaging
- The top of the extinguisher must be protected with foam or polystyrene topper (see pictures)
- The outer package must be marked with orientation arrows and the appropriate ADR label
- We strongly recommend that the extinguisher outer body is protected with foam or bubble wrap to prevent the body of the extinguisher from getting damaged



New Customers

All new customers wishing to send fire extinguishers must send a sample of their packaging (with an extinguisher) to the APC Hub HS&E Team.

The packaging will be checked to ensure that it conforms to the APC requirement and will be drop tested at a height of 1.2m.

If the extinguisher activates after the drop test the packaging will have failed and we will not move this product until such time as the sample packaging passes the drop test.

If the extinguisher survives the drop test without activating, we will pass the packaging as conforming to APC requirements and the customer can start to ship through the APC Network.

Note:

APC reserve the right to require that the packaging is improved prior to shipping through our network – this improvement maybe in addition to the packaging requirements of ADR.

The consignment **must** be sent as “Fragile” on the LQ Service Option.

APC Additional Requirements and Prohibitions

The carriage of any Limited Quantity via the APC Network, **anywhere by air or sea** is prohibited by APC policy.

It is the responsibility of the consignor/customer to classify, package and mark the goods for transport.

- APC reserve the right to refuse any Limited Quantity or alter and amend this Policy at any time.
- Failure to mark, label and package the goods correctly or to conceal DG or to mark as DG something that is not, is a **criminal offence** and could result in prosecution by the authorities.

For operational reasons we prohibit and will not carry the following, even if packed and marked as LQ or equivalent

Class	Prohibited Goods
Class 1 Explosives	ALL CLASS - even low hazard subgroups e.g. 1.4S 1.4G
Class 2 Gas	UN1965 Propane/Butane
Class 3 Flammable Liquid	UN1203 Petrol/Aviation fluid UN1202 Diesel Fuel/Gas Oil/Heating Oil UN1223 Kerosene UN1863 Naphtha-type aviation turbine fuel
Class 7 Radioactive	ALL CLASS
Class 8- Corrosive	UN 2794, Batteries wet filled with acid UN2795 Batteries wet filled with Alkali
Class 9 - Miscellaneous	Asbestos UN 2212 & UN2590
All Classes	Items with a PG 1 in column (4) of Table A of Chapter 3.2 ADR Items identified as LQ0 in column (7a) of table A of Chapter 3.2 ADR Wastes of any description. DG Items not packed and marked / labelled as Limited Quantity ADR chapter 3.4.2 & 3.4.3 & 3.4.4 & 3.4.7 or 3.4.8 Any LQ items destined for travel by boat, ferry, or airplane.

If the goods are incorrectly sent, packaged or labelled they will be quarantined at the Hub to await review.

- We do not have the facilities to repack dangerous goods containers. Where it is safe and compliant to do so, only outer packaging may be replaced; inner containers will not be repacked under any circumstances. Therefore, any damaged or leaking LQ parcels arriving at the Hub must be disposed or returned as in-scope dangerous goods via an ADR-approved courier, with the cost of return to be borne by the account holding depot.
- Damaged or in-scope dangerous goods will only be held at the hub for a maximum of five days, after which they will be disposed of. Disposal costs will be borne by the sending Depot.
- If any undeclared LQ or fully regulated Dangerous Goods are stopped at a port or airport the fine levied will be the responsibility of the requesting (Account holding) depot.
- At all times it will be the responsibility of the requesting (Account holding) depot to ensure all aspects of the policy are complied with, specifically where a PUR request has been submitted for the collection of LQ freight.
- Repeated infringements may result in the depot or customer being excluded from sending Limited Quantity (LQ) through our Network

Any item held for assessment will not be released for onward/return transition without written APC Hub QHS&E Team approval.

Where we carry LQ the safety of personnel and the security of the load must be considered always. Packaging, loading and stowage must be suitable to prevent damage and spillage.

No damaged or leaking containers will be collected trans-shipped or delivered:

- Costs and administration charges will be applied to the requesting (Account holding) depot, unless damaged by the Hub.
- All staff involved with handling LQ must be trained in identifying and handling dangerous goods in line with their responsibilities.
- Depots are required to identify to the Hub a profile of Limited Quantity Goods sent by their customers.
- New/Potential Customers or new products should be checked with the APC Hub by emailing the Hub QHSE Team, who will respond within 5 working days.
- Any depot submitting a Limited Quantity PUR must ensure that the collection point is fully informed of their legal obligations regarding the correct packing, marking, and labelling of LQ items in accordance with ADR regulations. Furthermore, depots fulfilling these requests must ensure drivers are instructed to refuse any consignments that are not safely or securely packaged.
- New customers are to send to the Hub QHSE Team the current SDS (Safety Data Sheet) for the product that they wish to ship through the network. The email address for the QHSE team is LQ@apc-overnight.com The customer or requesting Depot maybe asked to supply a sample of the packaging that their product is to be shipped in.

Remember:

We are only able to transport Dangerous Goods classified under Limited Quantities regulations by road within the UK mainland. This excludes any shipments requiring transportation by sea (including ferries) or air.

If your consignment requires delivery outside of the UK mainland, you will need to contact the relevant depot directly to determine whether they have arrangements in place with a service authorised to handle such goods via alternative transport modes (air or sea).

*This document is intended to be read by members of the APC Network to provide guidance and best practice on the transport of dangerous goods in Limited Quantities. It is not a substitute for statutory training.