

Dangerous Goods Guide for Transport

In line with ANC's Dangerous Goods Policy, the quantities of Dangerous Goods (DG's) that can be accepted, manifested, scheduled, loaded, transported and delivered by ANC contractors is strictly limited to the minimum quantities set out under "Placard Limits" as described within table 5.3 of the ADG Code 2020 Edition 7.7, this table can be found on Page 905 of the ADG Code and an extract is available on the last page of this document.

This guide is in place to provide staff and contractors with an understanding of what quantities of more common DG's can be accepted, manifested, scheduled, loaded, transported and delivered by ANC staff and contractors. It will also highlight the most appropriate method of load restraint and fleet type where applicable.

Definitions:

ADG Code-	"Australian Dangerous Goods Code" for the Transport of Dangerous Goods by Road or Rail- "The Code"
DG Transport Documents -	Often referred to as; The Dangerous Goods Transport Document, Dangerous Goods Shipping Guide, Dangerous Goods Manifest. Irrelative of name it must contain all details as set out in Chapter 11.1.2 of the ADG Code
DG/s-	Dangerous Good/s
DG Class/Division-	Dangerous Goods are classified by classes and divisions (of which there are nine), these classes highlight the risk each class poses to people or the environment
LPG-	Liquid Petroleum Gas
Net DG-	This is the quantity of dangerous goods in a consignment <u>LESS</u> any packaging
Placard Limit-	Defined by a pre-set quantity outlined in the code, each class has its own quantity limit which when exceeded becomes a "placard load"
Placard Load-	A load of DG that exceeds placard limits and requires additional compliance and Safety protocols to be applied, ANC does not transport such loads.
Segregation-	Certain classes of dangerous goods must be segregated both when in storage and during transport based on the risk they pose to each other, See- "Compatibility".

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Roles and Responsibilities.

Client/Consignor

- Flag job as DG and raise with ANC allocators
- Check the consignment to ensure it is not a placarded load which ANC do not deliver
- Supply Dangerous Goods Transport Document to the driver and allocator if possible
- Ensure the DG consignment is packaged safely and securely following the ADG Code

Allocator/Scheduler

Using the ANC Dangerous Goods Guide.

- Identify the booked job as being DG
- Confirm the DG class and assess the quantity to ensure it is not a placard load which ANC do not deliver
- Ensure the correct vehicle is used for the transportation of that class of DG
- Call driver to ensure he understands what to expect
- If you do not recognise the DG in this guide or need further assistance contact the safety team

Driver

- Ensure you receive DG transport document from the consignor when you arrive to pick up and keep this in the cabin of your vehicle
- Assess the load is packaged and restrained correctly according to the DG type
- Assess your vehicle is safe to transport the load i.e. side gates, cages
- Ensure after loading the DG is restrained safely and securely according to that DG and using correct load restraint techniques
- If packaged incorrectly or unsafely ask the packer/loader to fix
- Do not take the DG if it is not safe to transport
- Call ANC if required

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Dangerous Goods common to ANC.

Gas Bottles or Cylinders-



(LPG or Liquid Petroleum Gas)- which falls into Division 2.1 of Class 2

ANC has several clients who possess this DG, it is generally presented for transport in the form of;

- 4.5kg or 9kg cylinders- for BBQ and camping applications
- Larger cylinders- 45kg and greater for households or workplaces
- Small pressure cans
- Cigarette lighters

as per table 5.3 (b), any net quantity of LPG that exceeds 250 kg's or Litres is then considered a "Placard Load". As an example, and in realistic terms this means that ANC could accept 27 x 9kg gas cylinders, this would equate to 243kg's of net LPG as this quantity falls under the 250kg placard limit.

NOTE: Limited quantity provisions apply to many household products in small packages, chapter 3 of the code must be reviewed in these cases.

Load Restraint- Restraining any number of gas cylinders can be tricky, they have liquid within (hence can move) and they are round so do not travel well. The best form of restraint for multiple cylinders is some form of safety cage, failing this they must be secured by both blocking and tie down.

Fleet- in addition to load restraint tie downs etc. any vehicle transporting any quantity of dangerous goods must have sides or gates that will keep the load fully within the vehicle, this is in addition to standard load restraint equipment.

Any class 2 DG i.e. Gasses, must NEVER be transported in a vehicle where the load/cargo space shares a common air space with the cabin (most vans). Reason- If a leak of the DG occurs, the driver and any passenger/s are exposed to harmful and sometimes flammable or deadly vapours or gasses.

Lastly, the cargo space of a vehicle transporting class 2 gasses should also be very well ventilated, a leak here can also cause gasses to accumulate within the cargo space and if ignited, an explosion can occur.

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Dangerous Goods common to ANC.

Paints, Thinners, Degreasers, Adhesives, Insect Sprays, Cleaners etc.



(Flammable Liquids)- which falls into Class 3.

ANC has several clients who possess this DG, it can be presented for transport in a large variety of packages, most commonly;

- Spray cans
- Bottles/Drums/Cans/Tins in any size up to 20 litres
- IBC's 1000lt (caged tank)
- Squeeze tubes or Caulking tubes

as per table 5.3 (e), any net quantity of Flammable Liquid that exceeds 1000 kg's or Litres is then considered a "Placard Load". In realistic terms this means that ANC can only accept up-to 1000 kg's or Litres of Class 3 products.

NOTE: Limited quantity provisions apply to many household products in small packages, chapter 3 of the code must be reviewed in these cases.

Load Restraint- Restraining packaged Class 3 DG can be quite simple, however drums being round, and liquid filled pose the same issues as gas cylinders. Similar methods should be applied to restraining class 3 DG.

Fleet- in addition to load restraint tie downs etc. any vehicle transporting any quantity of dangerous goods must have sides or gates that will keep the load fully within the vehicle.

When transporting Class 3 flammable liquids, an appropriate spill kit should be carried in case of emergency spills.

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Dangerous Goods common to ANC;

Pool Chlorine, Oven Cleaner, Batteries, Bleach, Bathroom cleansers etc.



(Corrosives)- which fall into Class 8.

ANC has several clients who possess this DG, it can be presented for transport in a large variety of packages, most commonly;

- Bottles/Drums/Cans/Tins in any size up to 20 litres
- Buckets- Powdered Chlorine
- Spray Bottles
- Batteries

as per table 5.3 (e), any net quantity of Corrosive that exceeds 1000 kg's or Litres is then considered a "Placard Load". In realistic terms this means that ANC can only accept up-to 1000 kg's or Litres of Class 8 products.

NOTE: Limited quantity provisions apply to many household products in small packages, chapter 3 of the code must be reviewed in these cases.

Load Restraint- Restraining packaged Class 8 DG can be quite simple, however drums being round, and liquid filled pose the same issues as gas cylinders. Similar methods should be applied to restraining class 8 DG.

Fleet- in addition to load restraint tie downs etc. any vehicle transporting any quantity of dangerous goods must have sides or gates that will keep the load fully within the vehicle.

When transporting Class 8 in liquid form, an appropriate spill kit should be carried in case of emergency spills.

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Extract: Table 5.3 from the ADG Code, Edition 7.7 page 905

Table 5.3: Placard Load (Minimum Quantities) (A placard load is defined in 1.2.1.1) Note: the load must be assessed against both Table 5.3.1 and Table 5.3.2	
Table 5.3.1 – Dangerous goods not transported under Chapter 3.4	
Dangerous Goods in Cargo Transport Unit	Placard Load Quantity
(a) Any dangerous goods in a receptacle (other than an article) with a: <ul style="list-style-type: none"> • capacity > 500 L; or • net mass > 500 kg 	One or more such receptacles (i.e. one or more placardable units)
(b) Any quantity of: <ul style="list-style-type: none"> • Division 2.1 (except Aerosols); or • Division 2.3; or • Packing group I of any Class or Division 	Aggregate quantity of all dangerous goods (other than LQ) in the cargo transport unit ≥ 250 kg(L) (see Note 5)
(c) Division 6.2 Category A	All quantities

¹ The terms 'placardable unit' and 'transport unit' used throughout this Chapter are defined in 1.2.1.1 and 1.2.1.2.10 respectively.

(d) Division 6.2 (other than Category A)	≥ 10 kg(L)
(e) Loads where (a) – (d) do not apply	Aggregate quantity of dangerous goods (other than LQ) ≥ 1,000 kg(L) (see Note 5) - unless the load is a Fumigated Unit (UN 3359 –see Note 3),

Segregation;

Chapter 9 of the ADG code and specifically table 9.1 covers compatibility of dangerous goods based on Classes, Divisions, Subsidiary Hazards and some specific types of goods.

The Dangerous Goods that ANC currently engages with (as set out within this guide) are not subject to any segregation implications. HOWEVER- This may change if/when different DG's are consigned for transport. Table 9.1 MUST then be consulted to ensure compliance to the ADG code.

NOTE: Despite an entry in Table 9.1 that food and food packaging's are incompatible with dangerous goods of Class 8, food ingredients that are Class 8 dangerous goods are not considered to be incompatible with other food ingredients if the intended use of those ingredients is for the manufacture of food, or food ingredients, containing those ingredients (or like ingredients), with or without other ingredients.

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Extract: Table 9.1 from the ADG Code, Edition 7.6, page 1165

Table 9.1: Incompatibility based on Classification

Goods are considered incompatible if, in this table, any of the following conditions are met:

- a) the primary hazard of one is incompatible with the primary hazard of the other; or
- b) the primary hazard of one is incompatible with a subsidiary hazard of the other; or
- c) a subsidiary hazard of one is incompatible with a subsidiary hazard of the other.

CLASS or DIVISION	1	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6	7 ⁽⁷⁾	8	9	Food or Food empties	Fire-risk substances or Combustible liquids
1 Explosives	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
2.1 Flammable gas	(1)	0	0 ⁽³⁾	0	0 ⁽²⁾	N	N	N	N	N	0	N	0	0	0	0
2.2 Non-flammable non-toxic gas	(1)	0 ⁽³⁾	0	0 ⁽⁴⁾	0	0	N	0	0	N	0	0	0	0	0	0
2.3 Toxic gas	(1)	0	0 ⁽⁴⁾	0	N	0	N	0	N	N	0	0	0	0	N ⁽⁸⁾	0
3 Flammable liquids	(1)	0 ⁽²⁾	0	N	0	0	N	0	N	N	0 ⁽⁶⁾	N	0	0	0	0
4.1 Flammable solids	(1)	N	0	0	0	0	N	0	N	N	0	N	0	0	0	0
4.2 Spontaneously combustible	(1)	N	N	N	N	N	0	0	N	N	0	N	0	0	0	0
4.3 Dangerous when wet	(1)	N	0	0	0	0	0	0	N	N	0	N	N	0	0	0
5.1 Oxidising substances	(1)	N	0	N	N	N	N	N	0 ⁽⁶⁾	N	0 ⁽⁵⁾	N	N	0 ⁽⁵⁾	0	N
5.2 Organic peroxides	(1)	N	N	N	N	N	N	N	N	0	0 ⁽⁵⁾	N	N	0 ⁽⁵⁾	0	N
Toxic or 6 Infectious substances	(1)	0	0	0	0 ⁽⁶⁾	0	0	0	0 ⁽⁵⁾	0 ⁽⁵⁾	0	0	0 ⁽⁶⁾	0	N ⁽⁸⁾	0
7 Radioactive material ⁽⁷⁾	(1)	N	0	0	N	N	N	N	N	N	0	0	N	0	N ⁽⁸⁾	0
8 Corrosive substances	(1)	0	0	0	0	0	0	N	N	N	0 ⁽⁶⁾	N	0 ⁽⁶⁾	0	N ⁽⁸⁾	0
9 Miscellaneous dangerous goods / environmentally hazardous substances	(1)	0	0	0	0	0	0	0	0 ⁽⁵⁾	0 ⁽⁵⁾	0	0	0	0	0	0

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In this table:

- 0 means compatible unless a numbered exception applies.
- N means incompatible unless a numbered exception applies.

Dangerous Goods Transport Documents;

Chapter 11 of the ADG code addresses the requirements and content of DG transport documents. There are many influencing factors that go into accurate guidance on the requirements for DG transport documents. In short, all consignments which contain DG's must be accompanied by documentation which clearly declares and describes the DG, type of information required is;

- Proper Shipping Name
- UN Number
- Class or Division
- Quantity
- Packaging type
- Consignor/Consignee details

See an example on Page 8 of this guide.

Chapters 3 (3.4) and 11 of the ADG Code must be reviewed to gain a full understanding of what is required based on the product, class, quantity, packaging type etc.

If unsure, do not accept, manifest or load a DG consignment- Contact ANC's Safety and Compliance Team for guidance on this matter.

Dangerous Goods- Limited Quantities (LQ);

Many "household use" DG's come in small packages, some of these products have special provisions under "Concessional Limited Quantities", "Mixed Packet (lower risk) DG Packaging" and "Personal Care Product in Consumer Packaging" Chapter 3 of The Code needs to be reviewed in detail for these products. Concessions can only be applied where all guidelines for LQ have been met.

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The Dangerous Goods List in Chapter 3.2 of the ADG Code specifies a **maximum 'Limited Quantity'** for each UN Number. For some substances, the **quantity specified will be '0'**, meaning that the specific substance cannot be transported under the LQ provisions.

As per the extract table below, Nickel Carbonyl cannot be transported as LQ, while Nitromethane can be if the capacity of the container does not exceed 1L.

For the full table, refer to section 3.2.3 'Dangerous Goods List' of the [ADG Code](#).

							Packaging's & IBC's		Portable Tanks & Bulk Containers	
(1) UN No	(2) Name and Description	(3) Class or Division	(4) Subsidiary Risk	(5) Packing Group	(6) Special Provisions	(7) Limited Quantities	(8) Packing Instruction	(9) Special Packing Instructions	(10) Instructions	(11) Special Provisions
Ref	3.1.2	2.0	2.0	2.0.1.3	3.3	3.4	4.1.4	4.1.4	4.2.5 4.3.2	4.2.5
1259	NICKEL CARBONYL	6.1	3	I		0	P601			
1261	NITROMETHANE	3		II	26	1 L	P001			

Table: Extract from the Dangerous Goods List in Chapter 3.2 of the ADG Code

Example of a Dangerous Goods Transport Document

Transport document according to ADR 2015 applicable until 30.06.2017

Consignor					Consignee				
Column (1) UN Number (preceded by the letters "UN")	Column (2) Proper Shipping Name supplemented with the technical name in brackets if special provision 274 or 318 (class 6.2 only) appears in column 6 of the dangerous goods list	Column (5) Label model numbers (Subsidiary risks in brackets)	Column (4) Packing group (where assigned)	Column (15, bottom) Tunnel restriction code (in capitals within parenthesis)	Additional information (if required) e.g. "ENVIRONMENTALLY HAZARDOUS"; For empty means of containment enter "EMPTY, UNCLEANED" here	Number and a description of the packages when applicable (e.g. 4 drums)	Total quantity of each item of dangerous goods (as a volume or as a gross mass, or as a net mass as appropriate)	Column (15, top) Transport categorie according to 1.1.3.6 ADR	
UN 3090	LITHIUM METAL BATTERIES	9		(E)		4 fibreboard boxes	35 kg	2	

If Exemptions according to 1.1.3.6 are used
(1,000 point rule)

Enter total quantity per transport category

Total quantity	Transport category	Maximum total quantity per transport unit	Multiplication factor	Calculation according to 1.1.3.6 (= total quantity x factor)
	0	0	nicht relevant	immer kennzeichnungspflichtig
	1	20	50	0
	1 (*)	50	20	0
35	2	333	3	105
	3	1000	1	0
	4	unlimited	0	0
Calculation according to 1.1.3.6.4 ADR				105

(*) applicable only for UN-Numbers 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005, 1017



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Example of a Limited Quantity Transport Document

Figure B2: Sample Concessional Limited Quantities Transport Document

TRANSPORT DOCUMENT - CONCESSIONAL LIMITED QUANTITY			LQ Loads
Consignor:		Consignee:	
Address:		Address:	
<p>A) Inner packaging must not exceed Limited Quantities amount, found in Column 7 of the Dangerous Goods List in Section 3.2.3 of the ADG Code Edition 7.5 B) UN 0337, UN 1057, UN 2911 and UN 1044 do not have set quantity limits</p>			
Class or division or specific substance	Only include the quantity of those substances on the load	Max LQ Package Size ^a	Total Quantity
1.4S	UN0337 fireworks (party poppers, sparklers and bon bons only) ^B	N/A	
2	UN1950 aerosols	1 L	
2.1	Flammable gas	120 ml	
2.1	UN1057- lighters or lighter refills ^B	N/A	
2.2	UN1044 – fire extinguishers (portable only) ^B	N/A	
2.2	Other non-flammable non-toxic gas	120 ml	
3	Nitromethane, UN 1261	1 L (PGII)	
3	Other flammable liquid	1 L (PGII) 5 L (PGIII)	
4.1	Flammable solid	1 KG (PGII) 5 KG (PGIII)	
4.2	Substances liable to spontaneous combustion	500 g (PGII) 1 KG (PGIII)	
4.3	Substances which in contact with water emit flammable gases	500 g (PGII) 1 KG (PGIII)	
5.1	Calcium hypochlorite (UN 1748, 2208, 2880, 3485, 3486, 3487)	1 KG (PGII) 5 KG (PGIII)	
5.1	Dichloroisocyanuric acid, trichloroisocyanuric acid UN 2465, 2468 or any -chloroisocyanurate	1 KG (PGII) 5 KG (PGIII)	
5.1	Any bromate, chlorate, chlorite (also Class 8), hypochlorite	1 KG (PGII) 5 KG (PGIII)	
5.1	Other oxidising agent	1 KG (PGII) 5 KG (PGIII)	
5.2	Organic peroxide	500 g	
6.1	Toxic	500 g (PGII) 5 KG (PGIII)	
7	UN2911 – domestic smoke detectors ^B	N/A	
8	Strong and concentrated acids (concentrated versions of UN 1830, 2706, 1832, 1789, 1788, 1787, 2031, 1802)	1 KG (PGII) 5 KG (PGIII)	
8	Strong and concentrated alkalis (concentrated versions of UN 2679, 2680, 1823, 1824, 1813, 1814, 2677, 2678, 2681, 2682, 1564, 2923, 3262, 1759)	1 KG (PGII) 5 KG (PGIII)	
8	Other corrosive	1 KG (PGII) 5 KG (PGIII)	
9	Miscellaneous	1 KG (PGII) 5 KG (PGIII)	
	Any inorganic nitrate (various classes)	1 KG (PGII) 5 KG (PGIII)	
Total aggregate quantity			
Food (do not include in the aggregate quantity)		Yes / No	
<p>Certification: This load complies with all the characteristics of a CLQ Load specified in Chapter 3.4.10 of the ADG Code</p>			
Name:		Title:	
Signature:		Date:	

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References:

- ANC Dangerous Goods Policy
- Australian Dangerous Goods Code (Road/Rail) Edition 7.7, 2020
- Relevant Dangerous Goods Acts and Regulations-
https://www.infrastructure.gov.au/transport/australia/dangerous/transport_dangerous_goods.aspx
- Heavy Vehicle National Law Act 2012 (HVNL)
- Workplace Health and Safety Acts
- Workplace Health and Safety Regulations
- Load Restraint Guide 2018
- Load Restraint Guide for Light Vehicles 2018

Authorised by: Matt Wheatley

Signature:

A handwritten signature in black ink, appearing to read 'Matt Wheatley', is written over a horizontal line.

Position Title: Safety and Compliance Manager

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