

NCEC is conducting a project on behalf of the UK Department for Transport (DfT), part of which aims to raise awareness and promote the reporting requirements for dangerous goods incidents that occur on the road network.

Welcome to our second quarterly newsletter to support this.

Road (ADR) Incident Reporting Requirements



Picture the scene: your recently qualified Dangerous Goods Safety Advisor (DGSA) colleague contacts you to discuss an incident that occurred three weeks ago. One of his drivers has informed him that a 950-litre intermediate bulk container (IBC) of UN 1219, ISOPROPYL ALCOHOL, CLASS 3, PG II shifted during transport and leaked across the back of his trailer. This had been noticed when an alcoholic smell began to permeate into the vehicle's cab. The 300-litre spill from the leaking IBC had been successfully cleaned up,

however your colleague is unsure if this incident should be reported as there were no consequences to other parties, aside from a delayed shipment. Because you solidified your understanding of ADR notification requirements by reading a [previous version of this bulletin](#) earlier in the year, you quickly confirm that it should be reported. You also run through with your colleague what the exact requirements are, such as the fast-approaching one-month deadline for reporting the incident.

Below is a recap of the reporting requirements. It is a legal requirement under the **Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) regulations** to report certain serious types of incidents that involve dangerous goods to the Competent Authority. In Great Britain, this authority is the Department for Transport (DfT). In Northern Ireland, operators are required to report to the Health and Safety Executive for Northern Ireland (HSENI). The incident must be reported within **one month** of the incident occurring. To ensure that your organisation is accurately fulfilling its legal responsibilities, it is advisable to implement an internal best practice incident reporting process so that key stakeholders are promptly alerted when an incident meets the criteria outlined in ADR 1.8.5.



A report is required when an incident that involves dangerous goods fits into one of the following events **AND** it is serious enough to meet at least one criterion.

Event	Criteria
Immediate risk of, or confirmed loss of product	<ul style="list-style-type: none"> • Transport category 0 / 1: > 50 kg or litres • Transport category 2: > 333 kg or litres • Transport category 3 / 4: > 1,000 kg or litres <p><i>There are also additional stipulations for Class 6.2 and Class 7 materials.</i></p>
Personal injury or fatality	<ul style="list-style-type: none"> • Death • Unable to work for at least three consecutive days • Hospital stay of one day or more • Intensive medical treatment
Material or environmental damage is sustained	<ul style="list-style-type: none"> • Damage value of more than €50,000
Involvement of the authorities	<ul style="list-style-type: none"> • Evacuation or route closure for three hours or more

This table provides a brief summary of criteria, however for full legal definitions please refer to ADR 1.8.5.

ADR 1.8.5 covers more than the movement of goods on public roads. It also encompasses **loading and unloading operations**. Therefore, there may be reporting obligations on the loader, filler, carrier, or consignee.

Some scenarios that may require reporting to the DfT (or another Competent Authority) are detailed below for you to consider. They are designed to demonstrate the breadth of dangerous goods incidents that must be reported and can be used to support revision sessions for DGSA exams.

- ❖ A full road tanker, carrying UN1202, DIESEL to a rural farm, skidded on mud as it rounded a corner of the A361 near Chipping Warden and experienced a rollover into a neighbouring field. The driver was not injured, and nor was any product spilt. However, in the impact the tanker was severely dented, and the valve assembly bent, so it was unable to continue its journey. The diesel was pumped into a replacement tanker and tractor unit once the damaged tanker was righted. Due to the imminent loss of more than 1000 litres for a transport category 3 product, the Competent Authority would need to be notified.
- ❖ An 80-kilogram industrial reel of UN0065, CORD, DETONATING, FLEXIBLE (UN0065) fell off a pallet while it was being loaded by a forklift truck onto a lorry. The reel smashed to the ground and critically damaged the goods, but thankfully no operatives were injured. The dangerous goods note (DGN) had not yet been issued in this operation as this had happened when the lorry was fully loaded but before departure. The subsequent investigation revealed that the wrong strength of securing straps had been used. Since 80 kilogram of transport category 1 goods were damaged, this incident must be reported to the Competent Authority. The reporting threshold for transport category 1 is 50 kilograms. The fact that the DGN had not been prepared was irrelevant as the loading operation was still underway.

- ❖ Following a random inspection at Swansea dock on a 40-foot shipping container, it was collected by a lorry that misjudged a turn within the dockyard. The trailer overturned and the shipping container was lost into the dock. The container had not been correctly closed following the inspection and as a result the product (5 tonnes of UN2211, POLYSTYRENE BEADS, EXPANDABLE, EVOLVOING FLAMMABLE VAPOUR) floated into open water, caused an estimated £85,000 of pollution damage to the nearby Gower Nature Reserve and affected the local population of European Otters. Since more than €50,000 of damage had been sustained to the environment, this incident would need to be reported to the Competent Authority.

- ❖ A forklift operative was carrying out an internal warehouse transfer on an IBC of UN2672, AMMONIA, AQUEOUS SOLUTION, 10-35%, which was held on the top row of the shelving unit. During the operation, the operative forgot to lock the aisle entrance and a warehouse employee entered. The forklift operative was distracted, and incorrectly positioned the forklift under the IBC. When it was raised, the IBC slipped off the forks and fell to the floor, splitting open and splashing the solution on the warehouse employee, causing chemical burns to their skin. Even though there were serious injuries, as this was an internal transfer in progress, ADR 1.8.5 does not apply and therefore the Competent Authority does **not** need to be informed through this channel.

- ❖ A manufacturing plant that produces recycled paper and cardboard had received a delivery of sulfuric acid by road tanker. The plant operator escorted the driver to the fill-line inlets before walking away. The driver connected the delivery hose to what he believed to be the correct inlet for the sulfuric acid storage tank and began to dispense the liquid. After 30 seconds, he noted that a green cloud of gas was escaping from the sodium hypochlorite storage tank, so he stopped the filling process and fled the area before raising the alarm. The entire plant and surrounding 1km² were evacuated, and the fire service called to site. It was discovered that the driver had selected the incorrect inlet due to lack of labelling and as a result, had mixed 1,000L of sulfuric acid with 30,000L of sodium hypochlorite, which had caused a chemical reaction and the generation of chlorine gas. This would require reporting to the Competent Authority due to the large-scale evacuation and attendance of the emergency services.

If you are the person responsible within your organisation for reporting dangerous goods incidents to the Competent Authority, you should familiarise yourself with the full criteria of ADR 1.8.5, which defines when you need to submit a report. It is a legal requirement for incidents and accidents that meet the requirements of ADR 1.8.5 to be reported to the Competent Authority who, on receipt of the report, are entitled to request further relevant information. The online reporting form for Great Britain can be found here:

[Transporting dangerous goods - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

If an incident occurs during an **international journey** that is covered by ADR 1.8.5, a report must be submitted to the Competent Authority of the territory where the incident occurred.

If you have any questions on the reporting requirements of ADR 1.8.5 or other regulatory obligations, please contact the DfT at dangerousgoods@df.gov.uk or call 020 7944 2271/2058.

Enforcement of the safe Carriage of Dangerous Goods – Prohibition Notices

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (CDG) in conjunction with the ADR regulations regulate the carriage of dangerous goods by road.



In the UK, the Department for Transport (DfT) is responsible for the enforcement of the secure carriage of dangerous goods requirements (excluding class 7 radioactive materials). For road transport, the associated enforcement activity is undertaken by several authorities including the Health and Safety Executive (HSE), the Driver and Vehicle Standards Agency (DVSA) and the police.

Following on from our enforcement perspective on load security in our [last bulletin](#), we thought it would be helpful to have a broader look at enforcement issues that are encountered during roadside checks on vehicles carrying dangerous goods within the UK. We have reviewed archived data from various online sources, including the HSE website, along with data we gathered from various forums, and have identified the subject areas that are most frequently causing prohibition notices to be issued.

Top five issues identified relate to:

- Fire extinguishers
- Transport paperwork/instructions in writing being inaccurate/incomplete
- No/incorrect placarding/markings
- Equipment not available
- Load security.

ADR chapter 8.1 covers equipment and documentation. ADR 7.5.7 covers handling and stowage. We touched on several of these issues in our [previous bulletin](#), but we thought it would be helpful to summarise the importance of these items and some things to consider.

Fire extinguishers: ADR 8.1.4 concerns fire extinguishers. The regulations stipulate how many and what type of fire extinguishers must be carried by a vehicle carrying dangerous goods. They also state that the extinguishers must be accessible as it is hoped that their use will allow a driver to safely exit a vehicle in the event of an incident. In some instances, they can also stop an incident escalating and becoming much more serious if they can be deployed as soon as an issue emerges. Enforcement officers often encounter vehicles where fire extinguishers are missing or out of date, so it is critical that operators (and drivers for the sake of their own safety) remember to check that the correct number of extinguishers are present for the vehicle and that they are serviced/replaced as necessary.



Transport paperwork inaccurate/incomplete: The regulations state that a vehicle carrying dangerous goods must carry transport documents, which contain key information about the material being carried (such as UN number, Proper Shipping Name, Class, Packing Group, volume etc.) and instructions in writing (which contain basic information for use in an emergency). Documents to be carried are covered in 8.1.2 of ADR, with cross references to Chapter 5.4. Instructions in writing will support the driver with taking immediate action in the event of an emergency, but the wider transport documentation is critical so that the emergency services can understand what is being carried on a vehicle and implement the most appropriate response.

Placarding/Marking: Placarding refers to the correct placement of hazard labels (diamonds) on the vehicle and marking refers to the correct placement of orange plates on the vehicle. ADR 8.1.3 refers to ADR Chapter 5.3 in respect to placarding and marking. Placarding and marking provide an early indication to observers of an incident that dangerous goods are on board and provide preliminary information to the emergency services, to inform their response, until more detailed paperwork can be located.

Equipment not available: ADR 8.1.5 refers to "miscellaneous equipment", which includes things such as wheel chocks, pocket lamps, warning signs and warning vests. Other specific items, such as eyewash, protective masks, environmental first aid items, may be needed according to the Class of Dangerous Goods being transported. As outlined in a later article, enforcement officers have developed a mat that allows required equipment to be laid out during roadside checks to expedite the check process and ensure that everything remains in a sanitary condition.

Load security: ADR 7.5.7 (Handling and stowage) sets out clear requirements for hauliers in terms of securing dangerous goods in a suitable manner to prevent movement and damage during transport. It should be noted that the Road Traffic Act 1988 has a requirement for loads to be secured, and guidance on meeting those legal requirements has been published by the Department for Transport (Safety of loads on vehicles: code of practice (publishing.service.gov.uk)). In particular, Section 15 of the code provides specific guidance on securing Dangerous Goods loads.

As outlined in our [previous bulletin](#), non-compliance with the regulations has led to some very serious incidents involving insecure loads during the carriage of dangerous goods, and prohibition statistics confirm that it is a significant area for improvement within industry. It is therefore critical that operators assess whether a load is secure and that it cannot become unstable during transport by checking that all appropriate load security measures, detailed in the regulations, are implemented and in good condition.

Even in a highly regulated area of industry, there is still appears to be a significant issue with non-compliance nationally when looking at the reported statistics. The purpose of a prohibition notice is to remove the risk to road safety. In the case of vehicles found in breach of regulations relating to the carriage of dangerous goods, separate notices will be issued for each individual breach to comply with the requirements of the HSE. It is therefore in the interest of every operator to comply with the regulations to ensure the safe carriage of dangerous goods and smooth operation of their business.

Roadside Compliance Check Safety and Personal Protective Equipment (PPE) Mat

The UK National Carriage of Dangerous Goods Practitioners Forum has been gaining more and more members over the past few years, from the 42 police forces, industry, and government agencies, which has significantly improved the sharing of best practice. With many enthusiastic and industrious minds striving for easier and more professional ways to conduct enforcement activity, we have seen first-hand some practical solutions that have been developed.



One such innovation came from drivers and officers who, whilst doing roadside compliance checks, noticed that equipment stipulated by the regulations was often being placed onto the ground by the driver. Lay-bys and lorry parks are not the most sanitary of conditions and this could result in contamination of the safety equipment, which is not desirable.

Also, whilst undertaking compliance checks with foreign lorry drivers, often the internet, hand signals and the long-lost art of mime were being employed to help all parties and ensure that the driver understood what was required by the enforcement officer. This was often costly in time and could lead to frustration on all sides.

One police force, with support from National Highways, proposed that the answer to this was to develop a safety equipment and PPE mat, reflecting the requirements of the road (ADR) regulations.

This mat is made of a durable rubber material that can be simply laid onto the ground. It has internationally recognisable pictographs that aid communication and can be washed afterwards to prolong its life. The mat enables drivers to place their equipment onto the ground without fear of contamination. It also assists enforcement officers and international drivers alike to navigate a compliance check, quickly and efficiently, regardless of any language barriers. This means that the interaction can be more inclusive and take up as little time as possible.



PS 407 Jason Dearsley – Essex Police

Vice Chair of the National Carriage of Dangerous Goods Practitioners Forum

Road (ADR) Additional Measures for the Carriage of High Consequence Dangerous Goods



Security is an important issue for dangerous goods (DGs) while in transport due to their potential for theft and subsequent misuse, which may cause damage to people, property, or the environment. ADR regulations 1.10.1 require certain measures to be in place before, during and after the transport of DGs to reduce the risk of the load falling into incorrect hands.

On a generic level, those involved in the transport of DGs should have regular and sufficient training that focuses on preventative best-practice behaviours and actions that can be taken in the event of interference with the DGs, as well as knowledge of and participation in internal plans (if present) to enhance the security of the DGs during transport. DGs should also only be transported by suitable qualified hauliers and each driver should always have photo identification while transporting DGs. Areas storing DGs should, where possible, not be accessible to the public and have appropriate physical barriers against theft e.g. high fences, locked gates and CCTV.

Examples of best-practice behaviours could include conducting regular security walks around a DGs' compound, challenging drivers who are not carrying identification badges in a loading bay, or reporting poor physical infrastructure, such as broken CCTV cameras. Furthermore, records of employees' training must be kept on file by their employer for a timeframe set by the Competent Authority to prove compliance (in Great Britain this is the Department for Transport (DfT) and for Northern Ireland this is the Health and Safety Executive for Northern Ireland (HSENI)).

So, with all these measures in place, what are High Consequence Dangerous Goods (HCDGs) and how and why are they treated differently by the regulations?

The Emergency Services conduct exercises to streamline their response to real terrorist events. Under the Chemsafe scheme, the NCEC participated in one such multiagency exercise in 2022, when a large quantity of a highly toxic solid (Class 6.1, Packing Group I) was dumped into a reservoir that was part of the wider water distribution network for 90,000 homes. The implication was that terrorists were attempting to poison a town's population and cause widespread panic, disruption, and numerous potential fatalities. As the product was a Class 6.1 PG I product, it is classified as a HCDG and therefore to obtain 900kg of the product, terrorists would have had to have overcome several security measures, or the security measures were not stringent enough to deter acquisition.

HCDGs are substances most attractive to terrorists due to their potential for misuse and harm in a Chemical, Biological, Radiological, Nuclear and Explosive (CBRNe) event, as they may produce serious consequences, such as high human impact (mass casualties), physical damage (caused by explosions) or socio-economic disruption.

Table 1.10.3.1.2 in ADR lists classes of goods, other than Class 7, which have been identified as HCDGs. These include substances that are commonly transported such as:

- Nitric acid >70%
- Ammonium nitrate
- Ethylene oxide.

More unusual examples include certain explosives, e.g. non-electric detonators, or category A infectious substances, such as foot and mouth disease. The additional security measures may not be required for some smaller loads applying the exemption outlined in Section 1.1.3.6.3. For the specific definitions of high consequence radioactive materials, see ADR 1.10.3.1.3 - 1.10.3.1.5.

The overarching principle of ADR is to provide the requirements for the safe carriage of DGs by road: to the general public, those involved in the transport chain or emergency responders, who interact with DGs when an incident occurs *during* transport. However, the additional requirements for HCDGs place an emphasis on preventing security breaches, which ultimately could result in theft.

HCDGs therefore have extra security measures designed to protect the wider public by reducing the likelihood of these types of materials entering an uncontrolled situation and therefore the potential for CBRNe terrorist attacks. One of these measures is that there **must** be a security plan (unlike with other DGs, where a plan is advised) which, includes the following:

- Those responsible for the security of the HCDGs must have the authority and competency to carry out their roles.
- There must be a confidential method for recording the movement of HCDGs and protection of information relating to the plan.
- There must be continuous assessment of the security risks caused by various stages of the transport operation.
- There must be a well-defined process to enforce security. For example, by undergoing frequent training refreshers, new employee verification, careful selection of the driving route or use of technology to reduce security risks. Technology should always be functional but should not hinder emergency response.
- There must be an efficient reporting process to periodically update, identify and resolve security issues.

Further information on the security plan, including a full breakdown of the required elements, is covered in Section 1.10.3.2.2.

If you are one of the people within your company responsible for creating the security plan, then you should also feedback and cooperate with other parties involved in transport, i.e., carriers, consignors and consignees, and the Competent Authorities. This is to relay discoveries during normal operations (i.e., areas that could be improved), as well as exchange threat information, apply appropriate security measures and respond to security incidents with the purpose of increasing public safety.

If you have any questions on the reporting requirements of ADR 1.10 or other regulatory obligations, please contact the DfT at dangerousgoods@dft.gov.uk or call 020 7944 2271 / 2058.

We hope you found this newsletter useful and informative. If you have any questions regarding the information in the newsletter, please contact us at ncec@ricardo.com.