



## Instruction sheet hazardous goods

Unit IVA  
Safety and  
environmental  
protection

Dita Mönkehues

### What are hazardous goods?

**Hazardous goods** or **hazardous materials** are substances and items which, in connection with carriage by road, rail, water or air, may present **hazards** for

- public safety or order,
- important common goods,
- human life and health
- animals and things.



### How do I identify hazardous goods?

Indication of four-digit UN number with official designation in the delivery note, on the packaging, canisters, drums, packages

e.g. **UN 1066 NITROGEN, COMPRESSED**  
**UN 1963 HELIUM, FROZEN, LIQUID**  
**UN 1202 DIESEL FUEL;**  
**UN 1203 PETROL or MOTOR SPIRIT**  
**UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.** (Example: residual solvent)  
**UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.**

**Marking of the vehicle** for large quantities of hazardous goods:



orange warning sign front and rear, e.g.  or   
large danger labels (placards) on the sides of a container or tank lorry

**Marking of containers with hazardous goods with danger labels and UN number**

Danger label examples:



gases  
non-flammable,  
not toxic



flammable  
liquids,



flammable  
solids



fire-promoting  
fabrics



toxic



corrosive

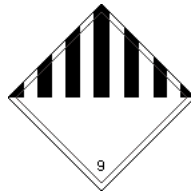
**Marking of a package with the mark according to 3.4 ADR**



**for packages containing hazardous goods in limited quantities**

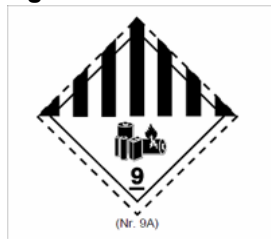
The total gross mass of the package must not exceed 20 kg.  
The individual bottles/vessels in the shipping carton must not exceed 5 litres - depending on the hazardousness.  
It is not obvious from the labelling which hazardous good is contained in the package.

**Marking: Lithium metal batteries and lithium-ion batteries**



Marking with danger label and UN number

- UN 3090 Lithium metal batteries - **more than 2 g lithium content**
- UN 3091 Lithium metal batteries in equipment - **more than 2g lithium content**
- UN 3480 Lithium-ion batteries, - **greater than 100 Wh**
- UN 3481 Lithium-ion batteries in equipment, - **greater than 100 Wh**



**danger labels as of 2019 at the latest:**

**Marking: “small” lithium batteries and lithium batteries in equipment,**

i.e. less than 2 g lithium content or less than 100 Wh



Marking new: as of 2019 at the latest



## What are the regulations?

**GGBefG** Dangerous Goods Transport Act

**GGVSEB** Dangerous Goods Ordinance Road, Rail and Inland Navigation

**ADR** European Agreement concerning the International Carriage of Hazardous Goods by Road

## Who is responsible?

The **person responsible for the transport is the person who**, as an entrepreneur or as the owner of an establishment,

- packs,
- loads,
- ships,
- carries,
- unloads,
- receives or unpacks hazardous goods

(§ 9 (5) GGBefG)

## Duties of the responsible persons according to GGVSEB

[§ 18](#) Duties of the customer of the sender

[§ 18](#) Duties of the sender

[§ 19](#) Duties of the carrier

[§ 20](#) Duties of the recipient

[§ 21](#) Duties of the loader

[§ 22](#) Duties of the packer

[§ 23](#) Duties of the filler

[§ 23a](#) Duties of the unloader

**The sender** shall, before issuing the transport order and before handing over dangerous goods for carriage, ascertain whether the hazardous goods are classified in accordance with Part 2 of the ADR and may be carried in accordance with [§ 3](#);

**The loader** must check, when handing over packed hazardous goods or uncleaned empty packaging, whether the packaging is recognisably incomplete or damaged or whether the outside of the packaging is covered with hazardous residues. The loader may not hand over for carriage a package with recognisably incomplete or damaged packaging, and particularly leaking packaging, allowing for hazardous goods to escape, or on which dangerous residues adheres on the outside, until the defect has been rectified;

**The unloader** shall ensure that the correct goods are unloaded by comparing the relevant information in the transport document with the information on the package or to check whether the packaging, the tank, the vehicle have been damaged to such an extent as to create a hazard for the unloading process. In this case, the unloader must ensure that the unloading is not carried out until suitable measures have been taken to avert a hazard;

**The recipient** may not delay acceptance of the goods without a compelling reason.

**Examples: Hazardous goods in suitable packaging:**



Gas cylinder bundle  
Image: Wystrach GmbH



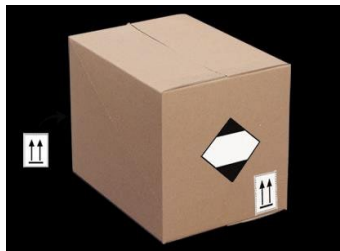
UN approved drum,  
e.g. for diesel fuel



UN canister for fuel



for aerosol dispensers



carton with inner packaging for dangerous goods packed in limited quantities



UN approved drum,

UN approved canister



UN approved transport box



## Exceptions from regulations

### Exemptions from the provisions of the ADR

- not on public roads
- Vehicles under 25 km/h maximum design speed
- **Transports carried out by companies in connection with their main activity (“craftsmen rule”)**, e.g. connection with measurements, Repair and maintenance work in quantities and not exceeding the maximum quantities according to subsection [1.1.3.6](#) ADR. Measures shall be taken to prevent the contents from being released under normal conditions of carriage.

### 1.1.3.6 ADR exemptions related to quantities, (1,000 point rule)

- The driver does not need to have an ADR certificate
- The vehicle does not have to be marked with an orange warning sign

**For example, the following quantities of hazardous goods may be transported:**

1000 litres of diesel  
333 litres of petrol  
1000 litres of nitrogen, compressed  
1000 litres of nitrogen, deep-frozen, liquid  
333 kg propane  
50 kg chlorine

### The following measures must always be observed during transport:

**Hazardous goods must be packed in such a way that no hazardous substances are released under normal transport conditions.**

- Ensure load safety,
- Transport of gases or flammable liquids in well-ventilated vehicles,
- Keep fire extinguisher, min. 2 kg extinguishing agent, ready in vehicle

If you want to ship or transport hazardous goods, need advice on classification (allocation of dangerous substances or mixtures of substances to a UN number), suitable UN approved packaging or danger labels, please feel free to contact me, your dangerous goods officer, Dita Mönkehues, Unit IVA, Hochschulstraße 1, Phone: 16-24694.

**Before you transport or ship dangerous goods, you must receive instruction! I will be happy to advise, inform and instruct you.**

Darmstadt, 31.01.2018

Unit IVA, Safety and environmental protection  
Hazardous goods officer - Dita Mönkehues