INFORMATION SHEET

TRANSPORTATION AND PACKAGING OF HAZARDOUS MATERIALS/DANGEROUS GOODS

April 2025

CAIA
Chemical & Allied Industries' Association

SAOAS

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

SAFETY SMART
Be Smart. Prevent Injuries. Save Lives.

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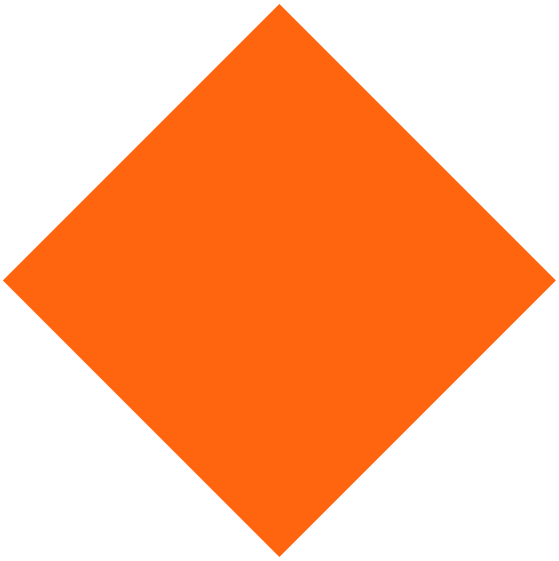
1. Vehicle Markings

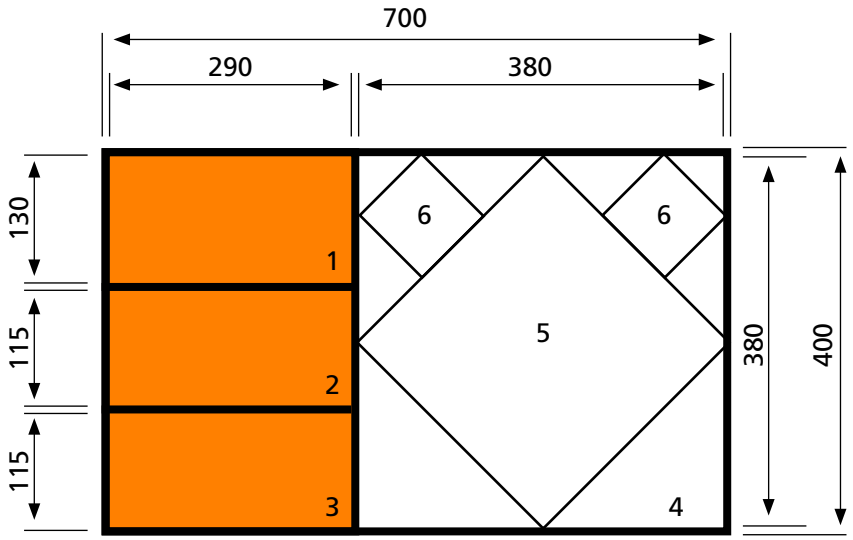
Vehicles transporting hazardous materials or dangerous goods must have legal identification markings. The primary identification mark is an **orange danger warning diamond** on the front of the vehicle.



Requirements for the warning diamond:

- Must be **clearly visible** on the front of the vehicle (no specific positioning requirements).
- Must be **clean and undamaged**.
- Size requirements:
  - **250mm square** for standard vehicles.
  - **100mm square** for vehicles with a Gross Vehicle Mass (GVM) of less than 3500kg.
- Must be **mounted diagonally** (diamond shape).

2. Vehicle Placarding



Requirements for vehicle placarding:

- Each cargo containment area must have three placards:
  - One at the rear
  - One on each side
- Placards must be visible from the roadside (no specific positioning requirements).
- Placards must be clean and undamaged.

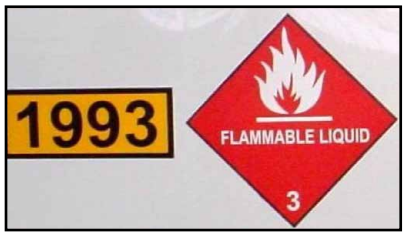
Legend

1. *Goods identification zone.*
2. *Operator telephonic advice zone (landline, mobile or call centre number with a 24/7 answering service).*
3. *Specialist telephonic advice zone (landline, mobile or call centre number with a 24/7 answering service).*
4. *Hazard class diamond zone (primary hazard class plus any subsidiary hazard classes).*
5. *Position of hazard class diamond or mixed load diamond.*
6. *Position(s) of subsidiary risk diamond(s).*

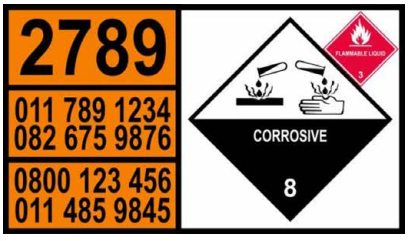
Split placarding

- Split placarding occurs when multiple placards are displayed on a vehicle transporting dangerous goods.
- Each placard represents a different class of hazardous material within the same load.
- This indicates a mixed load with multiple hazard types on a single vehicle.

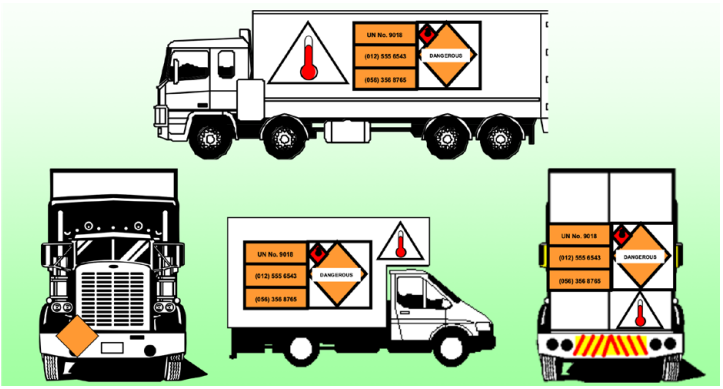
Example of a placard for a vehicle transporting more than one hazardous material with the same hazard class.



Example of a split placard for a shipping container.



Example of a subsidiary hazard class on a placard.



Elevated Temperature Warning

Vehicles transporting dangerous goods at elevated temperatures must comply with specific placarding and marking requirements in line with the UN Model Regulations and SANS 10232-1.

Left: Example of elevated temperature warning.

3. Licence and Roadworthiness

All vehicles transporting dangerous goods must have a valid vehicle licence disc, just like any other vehicle. A valid roadworthy certificate issued no more than 60 days is required before applying for the vehicle licence.

Right: Example of licence and roadworthy disc.

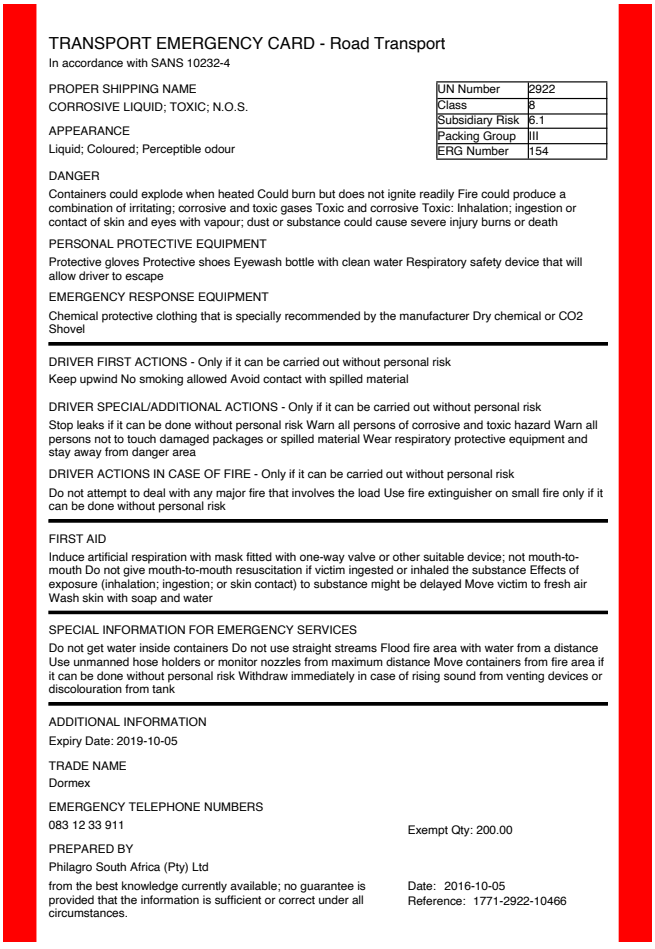
4. Designated Space in a Dangerous Goods Vehicle

- A designated space is a clearly marked, easily accessible area within the cab for storing documents related to the current load of dangerous goods.
- Typically, it consists of an orange container labelled “DOCUMENTS” in black font.
- Positioned near the centre of the cab to allow easy access from either door.
- The designated space must only contain documents related to the goods or substances on board, including:
  - Transport Emergency Card (TEC)
  - Dangerous Goods Declaration
  - Waste Dangerous Goods Declaration
  - Cleanliness Certificate

5. Transport Emergency Card

The Transport Emergency Card (TEC) is generated in South Africa in accordance with SANS 10232-4. It lists hazards and emergency information for the material being transported.

- The TEC is used by:
  - The driver in case of an incident.
  - Emergency services, if required.
- Requirements for vehicles transporting dangerous goods:
  - Must carry a TEC for each dangerous goods item in the load.
  - The TEC must be stored in the designated space.
  - The TEC is valid for three years.



TRANSPORT EMERGENCY CARD - Road Transport

In accordance with SANS 10232-4

PROPER SHIPPING NAME
CORROSIVE LIQUID; TOXIC; N.O.S.

UN Number	2922
Class	8
Subsidiary Risk	6.1
Packing Group	III
ERG Number	154

APPEARANCE
Liquid; Coloured; Perceptible odour

DANGER
Containers could explode when heated Could burn but does not ignite readily Fire could produce a combination of irritating; corrosive and toxic gases Toxic and corrosive Toxic: Inhalation; ingestion or contact of skin and eyes with vapour; dust or substance could cause severe injury burns or death

PERSONAL PROTECTIVE EQUIPMENT
Protective gloves Protective shoes Eyewash bottle with clean water Respiratory safety device that will allow driver to escape

EMERGENCY RESPONSE EQUIPMENT
Chemical protective clothing that is specially recommended by the manufacturer Dry chemical or CO2 Shovel

DRIVER FIRST ACTIONS - Only if it can be carried out without personal risk
Keep upwind No smoking allowed Avoid contact with spilled material

DRIVER SPECIAL/ADDITIONAL ACTIONS - Only if it can be carried out without personal risk
Stop leaks if it can be done without personal risk Warn all persons of corrosive and toxic hazard Warn all persons not to touch damaged packages or spilled material Wear respiratory protective equipment and stay away from danger area

DRIVER ACTIONS IN CASE OF FIRE - Only if it can be carried out without personal risk
Do not attempt to deal with any major fire that involves the load Use fire extinguisher on small fire only if it can be done without personal risk

FIRST AID
Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth Do not give mouth-to-mouth resuscitation if victim ingested or inhaled the substance Effects of exposure (inhalation; ingestion; or skin contact) to substance might be delayed Move victim to fresh air Wash skin with soap and water

SPECIAL INFORMATION FOR EMERGENCY SERVICES
Do not get water inside containers Do not use straight streams Flood fire area with water from a distance Use unmanned hose holders or monitor nozzles from maximum distance Move containers from fire area if it can be done without personal risk Withdraw immediately in case of rising sound from venting devices or discolouration from tank

ADDITIONAL INFORMATION
Expiry Date: 2019-10-05

TRADE NAME
Dormex

EMERGENCY TELEPHONE NUMBERS
083 12 33 911

Exempt Qty: 200.00

PREPARED BY
Philagro South Africa (Pty) Ltd

from the best knowledge currently available; no guarantee is provided that the information is sufficient or correct under all circumstances.

Date: 2016-10-05
Reference: 1771-2922-10466

6. Dangerous Goods Declaration

DANGEROUS GOODS DECLARATION

Consignment Note No: 101 11X

Company Logo (optional)

Consignor: R A Jones,
Jones Warehouse,
100 High Rd, Germiston
Tel: 011 100 1000

Operator: B Higgins,
Higgins Road freight,
200 South Ave, Germiston
Tel: 011 200 2000
Reg. no. vehicle: XYZ 200 GP

Product manufacturer

Consignee: ABC Chemicals,
300 Marine Drive, Durban
Tel: 031 300 3000

Product owner

Additional information on handling/transport/ storage:

Product custodian

The package marked with UN XXXX shall be shaded from sunlight

Party contracting the operator: R A Jones,
Jones Warehouse,
100 High Rd, Germistion
Tel: 011 100 1000

Shipping name	UN No.	Haz class	PG	Quantity & type of packaging	Gross mass kg	Net mass/vol kg/L
Paint	1263	3	III	2 fibreboard boxes, 4 x 5 L each	52	41.5

DECLARATIONS

"I hereby declare that the content of this consignment is fully and accurately described above by the proper shipping name, and is classified, packaged, marked and labelled/placarded and in all respects in proper condition for transport in accordance with the relevant national legislation."

Where the consignor is not the manufacturer, the declaration is based on information received.

Consignor : Product manufacturer ☐ / Product owner ☐ / Product custodian ☐ / Party that contracts the operator ☒ :

Signed: *R A Jones* Date: **2006-09-07**

"The consignment described above has been received into my vehicle. My vehicle is correctly placarded and I am in possession of all necessary transport documentation pertaining to the transport of dangerous goods, including information to be followed in case of an emergency."

Driver

Signed: *J K Williams* Date: **2006-09-07**

Example of a Dangerous Goods Declaration.

The Dangerous Goods Declaration must have the heading "DANGEROUS GOODS DECLARATION".

It must include the following information:

- Proper Shipping Name (PSN)
- UN number
- Quantity and type of packaging
- Gross mass [Verified Gross Mass (VGM)], or volume, and net mass of the goods
- Names and contact details of the following parties (where applicable):
  - Consignor
  - Operator
  - Consignee

7. Fire Extinguishers

- All vehicles with a GVM of 3500 kg or less: 1 x 9 kg or 2 x 4.5 kg, externally mounted.
- Horse (truck tractor): 1 x 9 kg, externally mounted.
- Rigid vehicles with a GVM more than 3500 kg: 2 x 9 kg, externally mounted.
- Trailers or semi-trailer: 2 x 9 kg, externally mounted.

8. Dangerous Goods Hazard Classes

- Dangerous goods are categorised into nine hazard classes based on the United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG) Model Regulations (UN Orange Book).
- These classes describe different types of risks associated with dangerous goods.
- In South Africa, the South African Bureau of Standards (SABS) has developed SANS 10228:
  - Title: The Identification and Classification of Dangerous Goods for Transport by Road and Rail Modes.
  - Purpose: Provides guidelines for identifying and classifying dangerous goods for transport within South Africa.

Dangerous Goods Hazard Classes		
 *Class/Division: 1.1* **Mass explosion hazard** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard	 *Class/Division: 1.2* **Explosive, severe projection hazard** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard	 *Class/Division: 1.3* **Explosion with fire, minor blast hazard** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard
 *Class/Division: 1.4* **Minor explosion hazard** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard	 *Class/Division: 1.5* **Blasting agent, very insensitive** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard	 *Class/Division: 1.6* **Explosive, extremely insensitive, no mass explosion** * - Place for compatibility group – to be left blank if explosive is the subsidiary hazard
 *Class/Division: 2* **Flammable gases**	 *Class/Division: 2* **Flammable gases**	 *Class/Division: 2* **Toxic gases**
 *Class/Division: 2* **Non-flammable, non-toxic gases**	 *Class/Division: 3* **Flammable liquids**	 *Class/Division: 3* **Flammable liquids**

Dangerous Goods Hazard Classes

Class/Division: 4.1

Flammable solids, self-reactive substances, and solid desensitised explosives

Class/Division: 4.2

Substances liable to spontaneous combustion

Class/Division: 4.3

Substances which, in contact with water emit flammable gases

Class/Division: 5.1

Oxidising substances

(also used for oxidising gases)

Class/Division: 5.2

Organic peroxides

Class/Division: 6.1

Toxic substances

Class/Division: 6.2

Infectious substances

The lower half of the label may bear the inscriptions in black colour:
"INFECTIOUS SUBSTANCE and
"In the case of damage or leakage, immediately notify Public Health Authority"

Class/Division: 7A

Category 1

Class/Division: 7B

Category 2

Class/Division: 7C

Category 3

Class/Division: 7E

Fissile material

Class/Division: 8

Corrosive substances

(also used for corrosive gases)

Class/Division: 9

Miscellaneous dangerous substances and articles

9. Global Harmonised System (GHS) Pictograms vs Transport of Dangerous Goods (TDG) Pictograms/Labelling Dangerous Goods

Transport of Dangerous Goods (TDG) pictograms have been adopted by the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

The square-on-point (diamond) shape is retained in both systems.

- **Key differences:**
  - The TDG system does not adopt GHS elements such as:
    - Signal words
    - Hazard statements
    - Precautionary statements
  - The only common element between GHS and TDG labels is the pictogram.
- **TDG pictograms typically include:**
  - The class number (e.g., 6 for toxic substances).
  - Sometimes the division number.
- **Placement of labels:**
  - TDG labels are generally found on outer packaging.
  - GHS labels are typically found on inner packaging (e.g., paint cans inside a box).
  - In single packaging scenarios (e.g., a drum of chemicals used in a workplace), both GHS and TDG pictograms may need to be recognised.

GHS pictograms are not used when a TDG pictogram already addresses the same hazard.

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