TDG Transportation of Dangerous Goods

What are Dangerous Goods?

Dangerous goods are products, substances or organisms that, through their transport, pose a significant risk to:

- the health and safety of the people who are transporting them or who may be exposed to them in the event of an emergency;
- property or
- the environment.

Dangerous goods include items such as compressed gases, fuels, lab chemicals and hazardous waste.
If you ship, transport or receive dangerous goods, TDG regulations apply to you! Shippers, carriers and receivers must be trained and hold a valid TDG Training Certificate. TDG training is offered on-line by Environmental Health and Safety. Department heads are to send requests for training to the Laboratory Safety Officer at labsafe@uoguelph.ca [1] or at 519 824 4120 ext. 54270. The cost of training is covered centrally for those individuals in a department that ship, transport or receive dangerous goods (usually 2-3 in a department). Additional personnel may be trained at a cost of $30 + GST. TDG training certificates are valid for a period of 3 years. Re-training must be completed within three years if you continue to ship, transport or receive dangerous goods. Those individuals involved in the preparation of shipping documents or actual transport of dangerous goods may require more comprehensive training. Please contact Laboratory Safety Officer at labsafe@uoguelph.ca [1] or at 519 824 4120 ext 54270 for more information.

What is your role?

Are you a shipper, carrier or receiver? Shippers, carriers and receivers alike must be trained in TDG and hold a valid TDG certificate. TDG regulations prescribe specific responsibilities depending on your role.

What if you need to ship dangerous goods?

As a shipper (person who offers dangerous goods for transport) you must ensure:

- goods are properly classified, packaged, labelled and marked;
- the shipping document contains all required information, including the shipper’s dated signature;
- if placards are necessary for the load, they appear on the vehicle before it is loaded;
- carriers are given one or more signed copies of the shipping document;
- one copy of the shipping document is maintained on file for at least two years;
- any additional permits or documents that may be needed for the particular shipment are provided to the carrier.

Generally dangerous goods shipments are arranged through Mail Services 519 824 4120 ext. 52264, who will provide you with the required TDG shipping documents, and labels as well as prescribe specific packaging and safety mark (label) requirements.

Hazardous waste shipments are coordinated through Environmental Health and Safety. Please refer to our Hazardous waste program for information on Guelph campus pick-up schedules or contact Laboratory Safety Officer 519 824 4120 ext. 54270 at labsafe@uoguelph.ca [1] for more information. For hazardous waste shipments from Regional Campuses and Research Stations please refer to Hazardous Waste information.

Packaging

After receiving shipping documents from Mail Services, department personnel are expected to:

- Package item being sent according to instructions
- Affix shipping documents on outside of package (see below)
- Call carrier to pick up package:
    - UPS: 1-800-742-5877
    - Federal Express: 1-800-463-3339
    - TNT Express: 1-800-461-8454
    - Purolator Courier: 1-888-744-7123
    - Manitoulin Transport: 1-519-653-0321
- Sign and date the carrier's waybill

What if you are the carrier of dangerous goods?

If possible, dangerous goods should be shipped via dangerous goods couriers rather than carried by University of Guelph employees. However, if you plan on transporting dangerous goods in a University or rental vehicle regulatory and insurance aspects must be considered. Did you know that without a specific allowance, insurance policies are often invalidated if dangerous goods are being transported?

Please contact Treasury Operations at 519 824 4120 ext. 52863 for inquiries.

If you are a carrier of dangerous goods you are responsible for the safety of the dangerous goods while in transit. Carriers must ensure:

- the shipper provides a complete shipping document;
- the shipping description on the shipping document is consistent with the safety marks (labels) displayed on the containers;
- the vehicle or package is in good condition for transport;
- the placards are displayed on the vehicle or container before the dangerous goods are loaded and that they are be visible on all sides;
- the placards are on display until all dangerous goods are removed from the vehicle;
- the shipping document is always accessible. (On the road, the document is to be left in the pocket of the driver's door or on the passenger seat);
- a copy of the document is left in the driver's pocket or on the driver's seat if the driver leaves the vehicle;
- "dangerous occurrences" that occur during transport are reported; and
- a copy of the shipping document is provided to the receiver along with the shipment

What's involved in receiving dangerous goods?

Receivers (consignees) receive the dangerous goods on delivery. As a receiver you must ensure:

- the shipment is unloaded safely;
- one copy of the shipping document is maintained on file for at least two years;
- "dangerous occurrences" that occur while the goods are under your control are reported;
- all safety marks (labels) are removed or defaced from large and small means of containment (e.g. boxes) when cleaned and purged; and
- the supplier is notified if dangerous goods arrive that are not in compliance, so that the problems can be corrected before the next shipment.

Once received, storage and handling of dangerous goods is to meet WHMIS requirements.

What do you do if there is an emergency involving transport of dangerous goods?

If there is an accidental release during transport of dangerous goods while they are in your care you must:

- take all reasonable emergency response measures to protect the public and;
- you may need to report to the appropriate authority. The need to report will depend on the classification of the goods and the quantity released. If a report is required, the person in charge of the goods at the time the incident occurs must notify:
    - the appropriate authority as shown below;
    - the University of Guelph (as your employer);
    - the shipper (if applicable);
    - for a road vehicle – the owner, lessee or charterer of the road vehicle
    - for Class 6.2 Infectious Substances – CANUTEC at 1-888-226-8832 or *666 on a cellular phone
    - for a cylinder that has suffered catastrophic failure – CANUTEC (same as above)

How are Dangerous Goods Classified?

Hazardous materials are placed in one of nine classes of dangerous goods depending on their hazardous characteristics. Classes are further subdivided into divisions as described below:

Class 1 – Explosives:

1.1 Mass explosion hazard (e.g. picric acid, some ammonium nitrate fertilizers, nitrosoguanidine, trinitrobenzene).

1.2 Projection hazard but not a mass explosion hazard (e.g. type B fireworks, some flares).

1.3 Fire hazard along with either a minor blast hazard or a minor projection hazard or both, but no mass explosion hazard. (e.g. dinitrobenzene, some photoflash bulbs).

1.4 No significant hazard beyond the package in the event of an ignition or initiation (type D fireworks).

1.5 Very insensitive substances with a mass explosion hazard (e.g. methylamine nitrate solution).

1.6 Extremely insensitive articles with no mass explosion hazard

Class 2 – Gases:

2.1 Flammable (e.g. hydrogen, carbon monoxide, acetylene).

2.2 Non-flammable and non-toxic (e.g. nitrogen).

2.3 Toxic gases (e.g. phosgene, nitrogen dioxide).

Class 3 – Flammable Liquids:

No divisions (e.g. acetone, methanol)

Class 4 – Flammable Solids:

Substances liable to spontaneous combustion and substances which, upon contact with water, emit flammable gases (water reactives).

4.1 Flammable solids (e.g. matches, sterno).

4.2 Substances liable to spontaneous combustion (e.g. charcoal, white phosphorous).

4.3 Water reactives (e.g. calcium carbide, sodium metal).

Class 5 – Oxidizing Substances and Organic Peroxides:

5.1 Oxidizing substances (e.g. perchlorates, potassium permanganate, nitrates).

5.2. Organic peroxides (e.g. benzoyl peroxide).

Class 6 – Toxic and Infectious Substances:

6.1 Toxic substances (e.g. pesticides, cyanides).

6.2 Infectious substances (e.g. Ebola virus, Hepatitis A)

Class 7 – Radioactive Materials:

No divisions. Radioactive materials with a specific activity greater than 70 kBq/kg (e.g. nuclear moisture gauges, radiochemicals, anti-static devices).

Class 8 – Corrosive Substances:

No divisions (e.g. sulphuric acid, potassium hydroxide solid)

Class 9 – Miscellaneous Products, Substances or Organisms:

No divisions (e.g. dry ice, genetically modified microorganisms not containing infectious substances)

Links
[1] mailto:labsafe@uoguelph.ca