



Frequently Asked Questions



◆ What is anhydrous ammonia?

Anhydrous ammonia is a highly effective fertilizer used by farmers in Canada to grow food. It is transported as a liquid compressed gas and in this concentrated form can present a serious risk in the event of a spill or leak. Anhydrous ammonia has a high inhalation hazard because of its corrosivity. By taking the proper precautions, anhydrous ammonia can be safely transported, handled, and used.

◆ What is anhydrous ammonia used for?

Anhydrous ammonia is widely used in a range of agricultural and industrial applications. In Quebec, Ontario and the prairies, it is commonly used as a fertilizer to grow food. It is also used as a refrigerant in ice rinks and the food processing industry, in the manufacture of a range of products such as glues, dyes and household cleaners, and in environmental control processes to reduce air pollution, purify water and treat waste. It is the active ingredient in smelling salts.

◆ Why has anhydrous ammonia been re-classified?

Under the Transportation of Dangerous Goods Regulations (TDG), anhydrous ammonia was reclassified in 2008 to better identify its corrosive hazards and improve the safety of first responders and the general public.

◆ How was the TDG classification of anhydrous ammonia changed?

The TDG classification of anhydrous ammonia was changed from a Class 2.2, Compressed Gas,



with a subsidiary Class 8, Corrosive, to a Class 2.3, Toxic Gas, subsidiary Class 8, Corrosive. This classification requires the placards on trucks, trains or anything else transporting anhydrous ammonia to be changed. Transport Canada's 2012 Emergency Response Guidebook (ERG2012) has been updated to reflect this classification.

◆ Where is this information in the ERG2012?

The information is shown on page 16 of ERG2012 on the Table of Placards and Initial Response Guide to Use On-Scene and refers the user to Guide 125 (orange pages) and the Table of Initial Isolation and Protective Action Distances (green pages). These pages outline the technical response guidelines for anhydrous ammonia. First responders are encouraged to become familiar with this information.

◆ Is this placard in place?

Yes, the new placard became mandatory in August 2008.

◆ How can first responders identify the placard?

The placard displays a black cylinder on a white background and the UN1005 number. It is referred to as the "anhydrous ammonia" placard in the regulations. The placard is similar to an earlier placard used for the former 2.4 Corrosive Gas classification.





◆ **What are the benefits of the placard?**

In the event of an emergency, the placard tells first responders they are dealing with anhydrous ammonia, a toxic gas under pressure, which is highly corrosive to skin and other tissues. Trucks, rail cars and farm application tanks used for anhydrous ammonia will carry the placard and the additional warning: "Anhydrous Ammonia, Inhalation Hazard."

The most important information on the placard is the UN1005 number, which immediately identifies the product and directs the first responder to anhydrous ammonia in the ERG2012.

◆ **Where is the placard used?**

The placard is used on all transport containers, including farm applicator units often known as nurse wagons. Rail cars and trucks moving between the United States and Canada will also carry the placard.

◆ **Where in Canada is anhydrous ammonia used the most?**

Anhydrous ammonia is commonly used as a fertilizer in Alberta, Saskatchewan and Manitoba. While agricultural use is lower in British Columbia and eastern Canada, it is used across the country in many industrial and refrigeration applications. Approximately two-thirds of the anhydrous ammonia shipped in Canada is exported to the United States.

◆ **How can a leak of anhydrous ammonia be detected?**

Look for the placard and check for odours. Anhydrous ammonia has a characteristic pungent smell similar to household cleaners containing ammonia. An ammonia smell may signal the presence of a leak or spill. An ammonia smell can be detected at very low concentrations, typically 5 to 50 ppm, which does not present a safety hazard.

◆ **What are the risks of exposure to anhydrous ammonia?**

Exposure to anhydrous ammonia in either gaseous or liquid form in high concentrations can be serious or fatal. The greatest hazard is inhalation, and in liquid form it can freeze or burn skin. In any situation involving anhydrous ammonia, protect yourself by staying upwind of an incident.



◆ **Is evacuation required if an incident occurs?**

A decision to evacuate or advise people to shelter-in-place depends on many factors, particularly the size of a release. Refer to the ERG2012 Table of Initial Isolation and Protective Action Distances for the correct technical response and evacuation criteria.

◆ **Does anhydrous ammonia harm the environment?**

The hazard to the environment from anhydrous ammonia in an emergency situation is relatively minor since most of the ammonia released will evaporate or dissipate to levels which occur naturally in the air. Ammonia may temporarily increase the alkalinity of streams, lakes and wetlands and adversely affect aquatic animals. It can also contribute to the growth of algae and other aquatic plant life.

◆ **How can I learn how to deal with an incident involving anhydrous ammonia?**

A training and awareness program has been developed by the Fertilizer Safety & Security Council (FSSC) in consultation with the first responder community and Transport Canada.

◆ **What is the Ammonia Code of Practice for agri-retailers?**

The Ammonia Code of Practice is a program to provide uniform standards for the handling and storage of anhydrous ammonia at agri-retail facilities in Canada. The Code was developed by fertilizer manufacturers, distributors and agri-retailers, with help from government agencies and the first responder community. To learn more about the Ammonia Code of Practice, go to www.fssc.ca.

◆ **Where can I get additional information about anhydrous ammonia?**

First responders interested in learning more about anhydrous ammonia should visit the FSSC's web site at www.fssc.ca, or call the Canadian Fertilizer Institute at **613-230-2600**.

