

Emergency Preparedness

Nova Cold Logistics is committed to the health and safety of the public. Our state-of-the-art facilities use anhydrous ammonia in our refrigeration system, which is designed and engineered to CSA standards. We have certified refrigeration engineers who continually monitor and service our equipment. In the unlikely event that there is a release of ammonia it is important to reduce exposure.

Anhydrous ammonia is relatively safe and dissipates quickly in open atmosphere. Some of the properties are listed below:

Description	Characteristic	Risk
Physical State	Gas	If released to atmosphere, difficult to contain, high inhalation hazard.
Boiling Point	-33°C (-27°F)	Boils off at very low temperatures. Skin freezes when in contact with liquid due to the cryogenic effect of the latent heat of vaporization.
Odour	Pungent	Sensory overload, causes respiratory difficulty.
Flammability	Extremely	Especially in the presence of oxidizing materials.
LEL – LFL	15% - 28%	Wide range of flammability.
Vapour density	0.59 (Air =1)	Gas will rise, exposure greater to those working at elevation to the release. If environment is humid the gas may travel along the ground.
Solubility in water	High	High affinity to water, contaminates water sources.
Auto-ignition Temp	650°C (1203.8°F)	Can auto-ignite, low potential.

Potential health effects and first aid measures

Ammonia has both acute and chronic health effects. Special attention needs to be considered for exposure to the product. Anyone who is exposed to this product should seek medical attention as soon as possible and follow all standard first aid best practices. At a minimum, this should include removing as much product from the body by flushing or rinsing.

Eye Contact – Higher potential of eye exposure if product (gas) is released into the environment. Exposure could lead to serious eye damage and symptoms can include; pain,

watering, redness, and frostbite. Ammonia is hydroscopic, which means it has a high affinity for water and will migrate to moist areas such as the eyes, nose, mouth, throat, and moist skin.

Inhalation – As ammonia is primarily found as a gas under normal atmospheric conditions, the highest potential is as an inhalation hazard. Inhalation could result in difficulty breathing and lead to unconsciousness.

Skin Contact – The product can be found in its liquid form when under pressure. Skin contact with the rapidly evaporating product will result in freezing of the tissues.

Ingestion – This is the least likely exposure method but could result primarily in chemical burns to digestive system. The primary systems include; frostbite and stomach pains.

For additional information on Ammonia see Safety Data Sheet (SDS) below:

<http://www.airgas.com/msds/001003.pdf>

What should you do if you smell ammonia?

If the smell is coming from outdoors is important to stay indoors and close all windows and doors. If your health is affected dial **9-1-1**. Follow the direction from your local emergency services.

You may be asked to do the following:

- **Shelter in place** – It may be safer for the public or neighbouring facilities to shelter in place to avoid exposure to an ammonia leak, depending on the quantity and other factors such as wind.
- **Evacuate** – Upon the direction of your local emergency services, it may be necessary to evacuate to a safe distance. Instructions will be provided to the public regarding the direction of the evacuation and any other pertinent information.

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