From: Rod Leeson
To: Cheryl Gordijk; Sharon Chambers
Cc: Julie Truong; Council; Corporate Leadership Team; Carrie Sciarra
Subject: RE: Minutes - February 28 meeting
Date: Monday, March 14, 2022 12:30:43 PM

Good afternoon Councillor Gordijk,

Nachurs Alpine is a fertilizer manufacturer not a chemical plant which would imply they manufacture chemicals on site. Nachurs Alpine manufactures “hot mix liquid fertilizers” using various ingredients that include some chemicals, serving the vast agricultural industry in the Township of Wilmot and beyond which is a vital asset to our farming community.

Anhydrous Ammonia is kept as a liquid under pressure in cylinders, trucks, and rail cars. When it is exposed to ambient pressure (air) it turns into a corrosive gas (vapour). It’s boiling point is -33 C which would cause a burn to your skin without appropriate protection. Ammonia is an inhalation hazard at low concentrations and is soluble with water. It is colourless with a specific gravity of .597 (means it is lighter than ambient air and rises). Depending on humidity and wind velocity, ammonia will move based on moisture content. For example, it may become heavier than ambient air if it’s exposed to high humidity. This is the reason water is used to control ammonia releases. Should something mechanically fail, water deluge systems are used to contain the ammonia spill and captured into a special containment area for recovery by an approved method. Anhydrous Ammonia, either liquid or gas, is a strong irritant to skin, eyes, respiratory tract. Time weighted average exposure value is 25 ppm which means a worker can safely work in these conditions for an 8 hour period. Anhydrous Ammonia has an extremely pungent odour and is easily identified to allow people to move away to safety.

Anhydrous Ammonia **is not** considered an explosion hazard due to its chemical properties. Ammonia gas has an explosive range of 16% (LEL - Lower Explosive Limit) to 25% (UEL – Upper Explosive Limit) by volume to air. This means you must have 16% LEL to 25% UEL ammonia to air ratio with a suitable source of ignition before you reach a flammable or explosive condition. This puts anhydrous ammonia outside of the considered flammability risks that other flammable gases require and **is not** considered explosive. This information supports that the gas must be in a confined space and meet the LEL and UEL with a suitable source of ignition before the vapour can be ignited and cause an explosion. Anhydrous Ammonia is not typically stored in these conditions where leaks into a confined space would be common. A good comparison example would be natural gas that has a specific gravity of .6 and an explosive range of 5% LEL to 15% UEL to air ratio, widely used around the world for a variety of purposes such as home heating and considered very safe in our day to day lives. Nachurs Alpine does not store any anhydrous ammonia inside any structures where gases may form in sufficient concentrations and exposed to a suitable source of ignition. All anhydrous ammonia is stored outside in approved vessels or cylinders with several safety features and trained staff to deal with any emergencies that may arise. Nachurs Alpine is highly regulated and required

to meet a long list of mandatory safety requirements to protect the public, the environment, and their workers. Nachurs Alpine is legislatively required by Environment and Climate Change Canada to conduct an E2 plan which is known as an Environmental Emergency plan. E2 plans are comprehensive and include regular reviews, updates, annual drills and exercises for staff. Local Emergency services are included in planning, drills and exercises.

In the Province of Ontario the D Series guidelines govern environmental considerations and requirements for industrial land use, sensitive lands, sewage and water services, and private wells. In particular the D-6 guideline governs the location of sensitive uses and their proximity to Industrial operations. Nachurs Alpine is classified as a Class 2 Industry with a 300m sphere of influence. The existing arenas and the proposed third ice pad are 650m from the Nachurs Alpine operation and therefore no additional siting analysis is required.
Nachurs Alpine will be doing a media release and presentation to council (TBA) to ensure proper and accurate information is being shared publicly specific to their operations.
I should also point out that Anhydrous Ammonia is widely used a coolant around the world, safely every day. One example is a food producer with plants in a residential neighborhood that has 10's of thousands of gallons of Anhydrous Ammonia used for large walk in/drive in freezers. The WRC uses Anhydrous Ammonia as a coolant to chill the ice surface.

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