

PRODUCT BACKGROUNDER

Ethylene

Important! For detailed information on this product and emergency measures, obtain the Safety Data Sheet ([SDS](#)). In the case of an emergency, please call our 24-hour hotline at 1-800-561-6682 or 1-403-314-8767.

May also be called: Ethene

Product/Substance Use:

- NOVA Chemicals manufactures ethylene at its facilities in Corunna, ON, Joffre, AB and Geismar, LA. It is shipped by pipeline and stored as a liquefied gas, under high pressure.
- This product is used as a raw material to make chemicals and polymers or as a refrigerant.
- Ethylene is also produced naturally in trace amounts by plants and acts as a growth regulator and ripening agent for fruit and vegetables.

Characteristics and Safe Handling:

- Ethylene is regulated as flammable in the workplace and during transportation.
- Ethylene is a low flash, extremely flammable liquefied gas, having a faint, sweet, gas-like odour at normal temperatures.
- Any equipment used in areas of handling or storage must be approved for flammable liquefied gas systems and properly grounded for control of static electricity.
- Do NOT attempt to extinguish an ethylene gas fire unless the leak source can be isolated and shut off. Any release to water, air or land will immediately disperse into a highly flammable gas cloud that is easily ignited by heat, sparks, static charge or flames. Foam cover may help suppress evolution of flammable gas.
- Areas surrounding an ethylene release must be considered as an immediate high risk for fire or explosion. Ethylene may collect to dangerous levels in low, underground or confined areas. Ignition from a distant source with flashback is possible.
- Product may decompose, or become self-reactive under certain extreme conditions e.g. shock, high temperatures, high pressures or contamination. Risk of container or pipeline explosion is extremely high when subjected to high heat or direct flames. Use large quantities of water to cool any fire-exposed pipelines or vessels.
- In the event of a large release or fire, evacuate personnel upwind to a safe distance of at least 0.8 to 1.6 kilometres (1/2 to 1 mile).
- Many materials become brittle and may fail without warning when exposed to a liquefied ethylene. If any safety equipment comes in contact with liquefied ethylene, it must be inspected and retested for integrity or replaced.

Health and Safety Information:

- Wear thermal protective gloves and all recommended personal protective equipment if contact with the liquefied ethylene is possible. Care should be taken to avoid having liquefied ethylene contact the skin or eyes as severe injury, blistering and frostbite can result. Thaw frostbitten skin gently in warm water. Do NOT rub or pull off adherent objects or clothing. Seek immediate medical attention.
- If eyes come into contact with liquefied ethylene, immediately flush with warm water and seek medical attention.
- Wear fire-resistant or natural fibre clothing in areas where ethylene releases can occur to reduce risk of possible buildup of static charge on synthetic fabrics.
- Ensure adequate ventilation is available. Breathing ethylene may cause nose and throat irritation, and at very high levels may cause headache, heartbeat irregularities, light-headedness, dizziness, nausea and loss of coordination. With extended contact (usually in an enclosed space), unconsciousness or death due to low oxygen levels is possible.

Environmental Information:

- Ethylene turns into a gas on release, and therefore has limited absorption into soil and sediment. The product is not considered harmful to aquatic life.
- Ethylene photodegrades in air in 0.4 to 4 days with an average of 1.5 days and is strongly dependent on the amount of sunlight. Degradation in soil by microorganisms is extensive. Plants show a wide variation in ripening and growth responses; toxic injury due to exposure is possible.
- Associated wastes may be regulated in Canada and in the United States. Ensure all applicable regulations are met.

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For more information on this, or any other NOVA Chemicals' product, please contact us at the nearest location below during business hours or visit our website at www.novachemicals.com:

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