DIAMOND PETROCHEMICALS

# Diamond Petrochemicals Canada Corporation

# Environmental Emergency Fact Sheet

# Explosive Category Chemical (E2) Regulation

July 2023

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## Diamond Petrochemicals Canada Corporation (DPCC) Overview

DPCC is a wholly owned subsidiary of Mitsubishi Corporation, one of the largest Japanese trading houses. Mitsubishi Corporation is a globally integrated business enterprise that develops and operates businesses together with its offices and subsidiaries in approximately 90 countries and regions worldwide, as well as a global network of around 1,700 group companies.

Mitsubishi Corporation has 10 Business Groups that operate across virtually every industry: Natural Gas, Industrial Materials, Petroleum & Chemicals, Mineral Resources, Industrial Infrastructure, Automotive & Mobility, Food Industry, Consumer Industry, Power Solution and Urban Development.

Our Philosophy and Principles are guided by our parent company and forms the foundation of our commitment to the stakeholders.

## DPCC Sarnia Olefins Production Site

The DPCC Sarnia Olefins Site is a Canadian company located in Sarnia, Ontario Canada. DPCC was established in 2020 to own and operate Canada's sole 1,3-Butadiene production facility.

Butadiene is a raw material used for the production synthetic rubber. Butadiene is found in the production of tires as well as in many essential industrial and consumer goods. Our product is shipped via rail to a variety of manufacturing facilities in North America. The site's workforce is comprised of approximately 45 full time employees.

## DPCC Safety Commitment

The DPCC Sarnia Olefins Site is committed to ensuring safe and reliable operations while protecting the health and safety of our employees and neighbouring communities as well as their living environments.

## Diamond Petrochemicals Canada Corporation

Olefins Site
1265 Vidal Street, South
Sarnia, Ontario N7T 7M2, Canada
diamondpetrochemicals.com

## Community Involvement

As part of our commitment to enhancing and protecting the safety and well being of our community, the Sarnia Olefins Site has taken steps to become a proud community partner by building positive relationships with members of our community.

Employees participate and/or serve in leadership positions at the following organizations: BASES (IEC, SLEA and CAER), and the CIAC.

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**Environmental Emergency Community Notification**

**24-hr emergency number: 519-337-8251**

The Environmental Emergency "E2" Regulations, established under the Federal government requires preparation and implementation of an environmental emergency plan to manage hazardous substances and industrial and commercial facilities. As required under section 4(2)(k) of the regulation, DPCC has communicated environmental emergency scenarios to members of the public who may be affected if an emergency scenario occurred. The table below lists the E2 Regulated chemicals that are onsite at DPCC and lists the respective hazard category as per Schedule 1,Column 5 of the E2 Regulation.

**Reasonably expected worst case impacts**

DPCC completed an evaluation of several possible scenarios for potential releases to the environment. The worst case and reasonable worst-case scenarios involve loss of primary containment conduct modelling of E2 Regulated chemicals to determine emergency scenarios which could be expected to occur with the furthest offsite impact as defined in the E2 regulation.

| E2 Hazard Category | E2 Risk Definition | E2 Related Chemicals |
|---|---|---|
| **Explosive Hazard (E)** | **Explosive chemicals are capable, by chemical reaction, of producing gas at a temperature, pressure and speed that would damage the surroundings** | **1,3-butadiene,**<br><br>**1-butene,**<br><br>**Isobutylene** |

*SDS are available upon request.*

Explosive category liquids at DPCC are stored in low pressure tanks. Explosive category gases are liquefied and stored in pressure vessels such as spheres or horizontal "bullet-shaped" vessels or they may be stored in underground caverns.

The possibility is for the most reasonably expected worst case scenario impact/release. Modelling of explosive scenarios resulted in an impact distance of 330m, 456m and 365m respectively.

**What are explosive category materials and how are they used at DPCC?**

- Hydrocarbons are used in a variety of applications by industry. Hydrocarbons are used as raw materials, solvents, and refrigeration agents in the process.
- DPCC uses the following chemicals on site which are rated with fire/explosion risk: acetonitrile, butadiene, butanes, butylenes, methane and hydrogen.

**What will these chemicals do to me?**

- Explosive category chemicals have the potential to ignite and explode if released in a confined cloud. The primary concerns with these types of accidents are burns, flying debris, and physical injury because of the force of an explosion.
- In most cases, these concerns primarily affect personnel working on site.

**What does DPCC do to keep me safe?**

DPCC uses a variety of procedures and equipment to prevent accidental releases, fires, and explosion including the following:

- Designs meet or exceed industry standards.
- All projects and process changes are tightly controlled and receive hazard assessments at the design and installation phases to minimize the potential for leaks, fires, and explosions.
- Vessels used to store liquid chemical are diked to contain a spill/release.
- Modifications to the facility undergo a Management of Change (MOC) to assess and mitigate potential emergencies.

- Pressure relief valves are in place and are designed to handle unexpected rises in pressure safely.
- Safety controls including warning alarms, interlocks and leak detectors provide multiple lines of defense.
- Ignition sources in hydrocarbon classified areas are controlled by installing equipment that meets specific electrical classification requirements, grounding / bonding systems and strict controls on "hot work" (construction and maintenance work that may generate sparks or flames).
- Underground storage caverns have isolation valves that close automatically upon detection of an operating problem, hydrocarbon leak or a fire.
- Regular equipment inspection, testing and maintenance programs ensure proper and safe operation.
- Safe work permits are utilized to ensure communication and controls are in place for work activities.
- Written procedures are in place for the operation & maintenance of the facility and highly trained operations and maintenance workers.
- Inspections and audits are performed to ensure correct procedures are followed and the facilities are properly maintained.
- The site is protected by an underground firewater distribution system with hydrants and monitors located throughout the site. Water spray systems are used to provide water over vessels and equipment.
- DPCC has trained personnel and equipment to respond immediately to an incident as is supported by an in-plant fire department, municipal response and mutual aid from surrounding facilities.
- Detailed emergency response plans are in place and practiced regularly. DPCC uses a third-party to assist with onsite incidents. Third party response has firefighting foam for fire suppression if required.

**How will I be notified of an emergency?**

DPCC maintains an audible alarm system that can be heard from anywhere within the facility and can be activated if required.

Alarms will sound, and announcements will provide information about the nature of the emergency and what to do. Stay calm and follow instructions.
All industries including DPCC are connected to the Sarnia Police Communications Centre (via 911) by a dedicated Chemical Valley Emergency Coordinating Organization (CVECO) radio link.

If an incident may affect the community, you may be notified through:

- Community sirens
- News flashes on local radio stations
- Internet-based and telephone incident-alerting systems (Sarnia Lambton Alerts)
- Loudspeaker announcements or other direct warning by authorities – police or fire fighters

**Shelter in Place**

DPCC takes the safety of the community very seriously and is a proud member of BASES (CAER, SLEA and IEC).

If there is an incident or event resulting in a release of a chemical on site, the community will receive a notification and a shelter in place may be ordered. During an emergency, information may be very limited. As much as possible, plan and prepare in advance.

Refrain from coming near the site and follow marked emergency routes and directions as provided by police and/or emergency responders.

The following are the steps the public should take if a shelter in place order is given.

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- All **onsite** personnel will proceed to designated muster areas except for those responding to the event.
- Check the wind direction and go indoors; shut and lock all doors and windows. (locking of doors and windows may help them seal better).
- Obtain your emergency supplies kit and keep it nearby.
- Proceed to an interior room that is above ground level if possible. Stay away from all windows as shattering glass may result in physical injury.
- Turn off all heating and air conditioning systems that draw air from outside (keep the outside air out and the inside air in).
- Use duct or other wide tapes to seal cracks around external doors and other vents into rooms. If none are available place wet towels at the base of doors.
- Close fireplace dampers if applicable.
- Turn on your radio or use your hand-held device to tune into to a local news station and monitor "Sarnia Lambton Alerts" for notification updates.
- Bring all pets indoors and keep them with you during shelter.

Unless you are ordered to do so by authorities:

- DO NOT attempt to evacuate or travel anywhere.
- DO NOT attempt to bring home children from school, or other family members from work.
- DO NOT use the telephone to call 911 or any other authority for information.

For more information on Shelter in place procedures, please visit the following link below:

Community Awareness (CA)- BASES Website (lambtonbases.ca)

**"All Clear" Announcements**

When the emergency is under control and "shelter in place" orders have ended, an "**All Clear**" siren will sound, and announcements to confirm "all clear" will be provided.
Internet-based and telephone incident-alerting systems (Sarnia Lambton Alerts) will also communicate the "all clear". Any other instructions will be provided as required.

**What will other people be doing?**

Area petrochemical plants and refineries have trained personnel and equipment to respond immediately to an incident. Detailed emergency response plans are in place and practiced regularly.

BASES works with local industry to bring together the resources and industrial responders during an incident.

Local petrochemical facilities and refineries work with BASES to test plans annually in a Sarnia area disaster simulation (SADS) exercise.

You can receive emergency notifications including warnings for extreme weather, unexpected road closures, missing persons, and evacuations including emergency and non-emergency updates from local industrial sites during emergencies by signing up for Sarnia-Lambton Alerts.

SARNIA-LAMBTON ALERTS

**In the event of an emergency, the BASES Industry Update hotline phone number is:**

**226-778-4611**