



## RESPONSIBLE CARE® REPORT



2009

#### DID YOU KNOW?

Responsible Care® companies use a modern management system to drive environmental, health, safety and security performance. The Responsible Care management system provides a structured framework to help companies assess their needs, set specific performance goals and share their progress with the public. A key component of the management system is mandatory certification by independent, accredited auditing firms.

The effectiveness of all of NOVA Chemicals' Responsible Care programs are regularly tracked and evaluated to drive additional improvements as part of our Responsible Care Management System®. This process includes regular internal and external audits.

Since 2005, NOVA Chemicals has been listed on the Jantzi Social Index™, a socially screened, market capitalization-weighted common stock index that consists of 60 Canadian companies that pass a set of broadly based environmental, social and governance rating criteria. For more information, please visit [www.jantzisocialindex.com](http://www.jantzisocialindex.com).

NOVA Chemicals is a member company of the FTSE4Good™ Index, a responsible investment index that recognizes companies that have policies and management systems in place to help address environmental, social and ethical risks. For more information, please visit [www.ftse.com](http://www.ftse.com).

NOVA Chemicals develops and manufactures chemicals, plastic resins and end-products that make everyday life safer, healthier and easier. Our employees work to ensure health, safety, security and environmental stewardship through our commitment to Responsible Care.

Responsible Care® is the chemical industry's global voluntary initiative under which companies, through their national associations, work together to continuously improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes in the manufacture and supply of safe and affordable goods that bring real benefits to society.



## TO OUR STAKEHOLDERS,



“NOVA Chemicals’ culture is built on the ethic and standards of Responsible Care. The safe operation of our facilities, conservation of resources, product stewardship and community engagement are central to our longstanding commitment to Responsible Care.”

## Responsible Care

and the principles of sustainability are the foundation of NOVA Chemicals’ culture.

For more than a decade, our company has actively promoted the Responsible Care ethic and standards company- and industry-wide. These standards provide the framework for NOVA Chemicals to effectively manage areas such as health, safety, security, environmental protection, sustainability and social responsibility.

Today, Responsible Care is expanding — helping the chemical industry address new opportunities and meet the expectations of a changing world. Through NOVA Chemicals’ collaboration with other Responsible Care companies, industry trade organizations and community stakeholders, we continue to drive initiatives that have a positive impact on our industry and the communities where we live and operate.

For example, as a member of the Canadian Chemical Producers’ Association and the American Chemistry Council, we are contributors to the development and adoption of industry-wide performance metrics, global standards and new Responsible Care codes that support our commitment to sustainability.

Responsible Care member companies will continue to demonstrate effective corporate citizenship and develop innovative technologies to address new opportunities and challenges. Leading the way with Responsible Care ensures that our industry will continue to make significant and sustainable contributions to society, the environment and the economy.

We hope you enjoy this report.

A handwritten signature in black ink, appearing to read 'Chris Pappas'.

**CHRISTOPHER D. PAPPAS**

President and Chief Executive Officer

## SUSTAINABILITY

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### DID YOU KNOW?

The Responsible Care® ethic helps our industry to operate safely, profitably and with due care for future generations, and was commended by the United Nations Environment Programme as making a significant contribution to sustainable development at the World Summit on Sustainable Development in 2002. For additional information, please visit [www.responsiblecare.org](http://www.responsiblecare.org).

American Chemistry Council member companies use natural energy resources to make the products that allow our customers to save energy. The products of chemistry go into energy-saving materials such as insulation, lightweight vehicle parts, lubricants, coatings, energy-efficient appliances, solar panels and windmill blades. From biofuels to hydrogen technologies, chemistry is at the heart of creating new and diverse energy sources.

The Canadian Chemical Producers' Association launched a website to outline their new Responsible Care ethic and commitment to sustainability. Learn more at [www.responsiblecare.ca](http://www.responsiblecare.ca).

"We remain committed to continuous economic, social and environmental performance improvement. These elements are the foundation of our business and help us deliver on our commitments to our stakeholders, customers and the communities where we live and operate."

CHRIS PAPPAS

President and Chief Executive Officer, NOVA Chemicals

The plastics industry endorses the practice of conserving resources and minimizing the environmental and health impacts of plastics and plastic products. The American Chemistry Council's Plastics Division supports sustainability initiatives that are conducted in accordance with these principles:

1. Environmental and energy-efficiency criteria in product design and purchasing decisions, along with product safety, cost, performance and availability.
2. Environmental performance and energy criteria in product evaluations through a "systems" approach, using recognized life cycle analysis tools that include the entire "use" phase.
3. Sustainable product criteria that reflect consensus-based decision-making, best available science, transparency, and openness to all stakeholders.

NOVA Chemicals' contributions to sustainability and social responsibility are implemented largely through our commitment to Responsible Care. This document briefly outlines some of our approaches to employee and community health and safety, product stewardship, greenhouse gas reduction and other issues that are central to sustainability and social responsibility.

At NOVA Chemicals, we believe that a sustainable business is a profitable and socially responsible business. We endorse the definition of sustainability developed by the United Nations: Sustainable Development meets the needs of the present without compromising the ability of future generations to meet their own needs.

We are committed to continual improvement in all three components of sustainability:

- **Environment** — We believe that sound environmental stewardship and careful management of our natural resources are fundamental to a sustainable business.
- **Social** — We develop and manufacture products that deliver value to our customers and make everyday life safer, healthier and easier.
- **Economic** — We create economic value for our stakeholders. We provide jobs, purchase goods and services, and pay taxes in our communities.

### SUSTAINABLE PRODUCTS

Our products are a key component of our approach to sustainability. We are committed to helping our customers achieve their sustainability goals by developing innovative polymers and products that create less waste through raw material source reduction and end-use energy efficiency.



## ► BARRIER FILM FOOD PACKAGING



**SURPASS®** packaging film resin manufactured with Advanced **SCLAIRTECH™** technology provides industry leading moisture-barrier performance and the ability for packaging designers to create thinner packaging — achieving more performance with less resin — to meet both performance and sustainability objectives. In fact, SURPASS film resins can deliver up to a 30% reduction in film gauge. Our film resins are found throughout the grocery store in applications, such as cereal liners and fresh produce, meat, cheese and poultry packaging. To learn more, please visit [www.surpassresins.com](http://www.surpassresins.com).

## ► ROTATIONAL MOLDING



Products manufactured using NOVA Chemicals' **SURPASS** polyethylene resins are replacing traditional materials such as aluminum, wood and fiberglass — delivering lighter, tougher products to a variety of markets. For example, the Carolina Electric Boats company's Twin Troller X10 electric boat, made exclusively with SURPASS performance resins, is designed to be durable, tough and safe. The product is also eco-friendly; its light weight allows it to be easily loaded into a truck bed and towed by any size vehicle, saving on fuel consumption and emissions. It is also completely recyclable. The Twin Troller X10 electric boat won "Product of the Year" in 2008 from the Association of Rotational Molders. To learn more, please visit [www.carolinaelectricboats.com](http://www.carolinaelectricboats.com).

## ► ARCEL® ADVANCED FOAM RESIN



**ARCEL** advanced foam resin is a sustainable packaging solution for high-end products that reduces packaging size by lowering the amount of foam cushioning needed to protect a product — ultimately reducing package size (by up to 40%) and related waste. This cuts the energy consumed in the manufacturing of packaging; increases the shipping capacity of every container, truckload and pallet — resulting in lower fuel consumption and transportation costs; lowers emissions throughout the supply chain; and reduces the waste stream. To learn more, please visit [www.arcelresins.com](http://www.arcelresins.com).

## ► QINNEX™ TECHNOLOGY



Enabling the development of advanced foam material to create safe and sustainable play parts for urban playgrounds, **Qinnex** technology is an innovation in polymer science that allows typically unrelated plastic resins to work together and form new, enhanced polymers. The foam parts created using Qinnex technology are components of the Imagination Playground Initiative developed by KaBoom! and Rockwell Group. Playgrounds built as part of this initiative offer children a rich environment of diverse materials encouraging unstructured, child-directed "free play." To learn more, please visit [www.qinnextechnology.com](http://www.qinnextechnology.com), [www.kaboom.org](http://www.kaboom.org) and [www.imaginationplayground.org](http://www.imaginationplayground.org).

## DID YOU KNOW?

Increased use of food packaging among the 5.7 billion people in developing economies can reduce food spoilage and lower overall food costs. For example, consultants estimate that plastic food packaging could reduce spoilage by 20-40% in India.

NOVA Chemicals is a member of the Expandable Polystyrene Molders Association, an organization dedicated to promoting the use of expandable polystyrene (EPS) resin as an innovative building material and a component of green design. Learn more at [www.epsmolders.org](http://www.epsmolders.org).

NOVA Chemicals is also a member of the Alliance of Foam Packaging Recyclers, an organization that works to facilitate EPS recycling between EPS manufacturers and original equipment manufacturers — as well as community recycling programs where feasible. Learn more at [www.epspackaging.org](http://www.epspackaging.org).

Prior to 1988, there was essentially no recovery of post-consumer polystyrene for recycling. Although the availability of polystyrene recycling programs varies by community, in 2008 more than 69 million pounds of polystyrene was recycled.

#### DID YOU KNOW?

The chemical industry creates materials to insulate homes, which have saved more than 5 billion gallons of fuel and cut carbon emissions by 6 million tons since the 1970s.

Building insulation materials made from chemistry save as much as 40 BTUs of energy for every BTU of energy consumed to make the material. House wraps save 360 BTUs of energy for every BTU used to make the material, and foam insulation can make a home up to 70% more energy efficient.

PARTEQ Innovations, the technology commercialization office of Queen's University at Kingston, Ontario, has received a Canadian federal government grant to establish a national Centre of Excellence for the development and commercialization of green chemistry technologies.

The first entity of its kind in North America, Greencentre Canada will bring together Canada's leading green chemistry researchers, industry partners, and commercialization professionals to develop cleaner, less energy-intensive solutions for traditional chemical and manufacturing processes.

NOVA Chemicals is pleased to be an industry partner and a supporter of this important and promising venture.

SYNTHEON Inc., a subsidiary of NOVA Chemicals, is a building science company that fuses material science with innovation to create efficient, affordable and environmentally sound structures. Each SYNTHEON™ product is a component in our fully integrated SYNCORE™ building envelope system — an environmentally-friendly building system that offers builders and architects the flexibility to build in a responsible way. All SYNTHEON products can contribute to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Green Building Rating System. To learn more, please visit [www.syntheoninc.com](http://www.syntheoninc.com).



The **accel-E™ Steel Thermal Efficient Panel (STEP) wall system** combines the strength of cold-formed steel framing with the insulation properties of NOVA Chemicals expandable polystyrene resin. The result is a thermally resistant, high-performance building system that is strong, lightweight and offers many advantages over conventional building techniques, including faster installation time and labor savings. The accel-E STEP wall system is energy efficient, provides low air infiltration, is non-toxic, will not rust, rot or decompose, and is recyclable. To learn more, please visit [www.accbt.com](http://www.accbt.com).



**INNOLAST™ lightweight composite panels** are designed to replace plywood and other composites in a variety of applications including concrete wall forms, playgrounds, recreational vehicles, and marine decking. Innolast panels are 100% recyclable, deliver long-term performance and are resistant to harsh elements, decomposition and forceful impact. To learn more, please visit [www.innolast.com](http://www.innolast.com).



**ELEMIX® concrete additive** using NOVA Chemicals' polymer technology is specially formulated to provide lighter weight and enhanced durability in structural and non-structural concrete applications. The lightweight characteristics of ELEMIX additive allows for overall material source reduction — reducing the amount of concrete and steel needed to build — delivering a more cost-effective structure. ELEMIX additive improves the thermal characteristics of concrete. As the R-value increases, energy demand decreases, resulting in lower heating and cooling costs for buildings.

ELEMIX additive also reduces the unit weight of concrete by up to 25%, providing structural strength through mix optimization and increasing the life and durability of a concrete structure. In addition to these construction benefits, using this additive enables more concrete to be transported in each shipment — resulting in reduced fuel consumption and lower emissions. ELEMIX additive was voted the "Most Innovative Product" in the category of Concrete Making Materials at the 2009 World of Concrete tradeshow. A panel of industry experts selected ELEMIX additive because of the innovation and value it delivers to the industry. To learn more, please visit [www.elemix.com](http://www.elemix.com).

For additional information regarding NOVA Chemicals' approach to sustainability, please look under "Environment" in the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com).

## PRODUCT STEWARDSHIP

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At NOVA Chemicals, product stewardship is the practice of making health, safety and environmental protection an integral part of the development, manufacturing, handling, use and end of life management of chemical and polymer products.

We make the “building blocks” — plastic resins and basic chemicals — used in products that make people’s lives safer, healthier and easier. Customers use our products to make food packaging, life-saving medical devices and supplies, protective packaging for electronics, injury-reducing sports gear, construction products and systems, insulated drinking cups and a host of other familiar items. Our approach is to maximize the benefits of these products while minimizing risks throughout the product lifecycle. **As part of our product stewardship process we:**

- Lead and participate in research to understand the potential health impacts of products before they are introduced to the marketplace.
- Characterize, manage and communicate product hazard and risk information.

- Work with suppliers and carriers to ensure they safely handle, package and transport the raw materials required to manufacture our products.
- Engage our customers, carriers and distributors to work cooperatively in order to safely handle, use and dispose of our products.

NOVA Chemicals is committed to managing the impact of our products across the full product lifecycle. As members of the American Chemistry Council's (ACC) Plastics Division, raw material inputs, energy requirements, atmospheric pollutants, waterborne discharges, solid waste and other parameters resulting from the production of our polymer products have been quantified and incorporated into lifecycle assessments. These are publicly available through the ACC and the U.S. Life Cycle Inventory Database, a project of the U.S. Department of Energy and its National Renewable Energy Laboratory.

### DID YOU KNOW?

The chemistry industry makes the products that make modern life possible, while working to protect the environment, public health and security. From medicines, fabrics, plastics and clean drinking water to cell phones, computers, automobiles and aircraft, chemicals and the business of chemistry are at the heart of safer, more convenient and healthier living. To learn more about the many ways that the products of chemistry make modern life possible, please visit:

- [www.americanchemistry.com](http://www.americanchemistry.com)
- [www.plasticsinfo.org](http://www.plasticsinfo.org)
- [www.ccpa.ca](http://www.ccpa.ca)
- [www.chemistryandyou.org](http://www.chemistryandyou.org)
- [www.elements-of-life.org](http://www.elements-of-life.org)

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As part of our commitment to product stewardship, NOVA Chemicals encourages the adoption of Responsible Care principles through our Responsible Care Outreach Program. This program engages suppliers, carriers, customers and other stakeholders and helps them understand our commitment to Responsible Care and our expectations for doing business with NOVA Chemicals.



#### DID YOU KNOW?

The ACC understands the concerns many consumers have about the amount and type of public information available on chemical products. In response, the chemistry industry has moved beyond government requirements and through the Global Product Strategy and the Responsible Care initiative has created a new website that details Product Stewardship Summaries for more than one thousand chemicals in commerce. To learn more, please visit [www.responsiblecare-us.com](http://www.responsiblecare-us.com) under "Product Stewardship."

The ACC has operated CHEMTREC® Support Services, a round-the-clock emergency communications center, since 1971. To learn more, please visit [www.chemtrec.com](http://www.chemtrec.com).

If you have questions about plastics issues that you may have heard about in the media, [www.factsonplastic.com](http://www.factsonplastic.com) and [www.plasticsmythbuster.org](http://www.plasticsmythbuster.org) are good sources of additional information.

We also actively support the Global Product Strategy (GPS) of the International Council of Chemical Associations' (ICCA). GPS was created to meet the United Nation's Strategic Approach to International Chemicals Management, and is designed to improve product stewardship programs across the chemical industry and with stakeholders. GPS also seeks to increase public awareness and confidence that chemicals in commerce are safely managed throughout their lifecycle.

Two key components of the GPS include (1) implementing a tiered process for completing risk characterization and recommending risk management actions for chemicals in commerce and (2) making chemical health and safety information available to the public. These components have been integrated into the ACC's Responsible Care product stewardship requirements and performance metrics.

Companies engaged in GPS, including NOVA Chemicals, are committed to make relevant product safety, management and risk information publicly available. To learn more, please visit the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com) under Product Stewardship and Products and Services.



Our polyethylene injection molding products — NOVAPOL®, SCLAIR® and SURPASS performance resins — deliver value through process and material efficiencies — providing our customers with an advantage in applications such as food packaging, pallets, crates, caps and closures.

#### PLASTICS RECYCLING AND REUSE

The plastics industry supports recycling that is sustainable, economical and environmentally responsible. Since 1990, the plastics industry has invested more than \$2 billion to support increased recycling and to educate communities in North America.

As part of both our Product Stewardship program and sustainability efforts, NOVA Chemicals encourages environmentally and economically sustainable plastics recovery and recycling programs. We participate in the Alliance of Foam Packaging Recyclers ([www.epspackaging.org](http://www.epspackaging.org)), and we are a primary funding member of the Environment and Plastics Industry Council ([www.plastics.ca/epic](http://www.plastics.ca/epic)), which sponsors plastics recycling research and integrated waste reduction strategies for Canadian municipalities.

NOVA Chemicals is a partner in Operation Cleansweep ([www.opcleansweep.org](http://www.opcleansweep.org)), an initiative that seeks to prevent the release of resin pellets into the environment. Operation Cleansweep combines fundamental product stewardship and environmental principles in helping every plastic resin handling operation implement good housekeeping and pellet containment practices to work toward achieving zero pellet loss. As part of NOVA Chemicals' Responsible Care Outreach program, all new polymer customers worldwide are provided with an information packet and/or electronic communication that directs them to the Operation Clean Sweep website and encourages them to participate. In addition to our new polymer customers, NOVA Chemicals continues to remind existing polymer customers about this program through periodic letters, e-mail reminders and the Product Stewardship section of [www.novachemicals.com](http://www.novachemicals.com).

The Progressive Bag Affiliates (PBA) of the ACC promotes the increased recycling of plastic bags as well as their proper use, reuse and disposal.



PBA recognizes that more can always be done to address environmental concerns, and works to create solutions to reduce the number of plastic bags that end up in landfills and as litter. To learn more about this issue, please visit:

- [www.americanchemistry.com/pba](http://www.americanchemistry.com/pba)
- [www.plasticbagrecycling.org](http://www.plasticbagrecycling.org)
- [www.cpia.ca/epic](http://www.cpia.ca/epic)
- [www.myplasticbags.ca](http://www.myplasticbags.ca)

High-Density Polyethylene (HDPE) and polyethylene terephthalate (PET) represent 96% of the plastic bottle stream. To improve the recovery rates of post-consumer plastic bottles, ACC's Plastics Division developed the "All Plastic Bottles" program, which simplifies the sorting process for consumers. Today the program is practiced in more than 2,000 communities nationwide. To learn more, please visit [www.allplasticbottles.org](http://www.allplasticbottles.org).

When mechanical recycling of plastics is not practical, NOVA Chemicals supports recapturing energy through waste-to-energy (WTE). Plastics are typically derived from petroleum or natural gas giving them a stored energy value higher than any other material commonly found in the waste stream. When plastics are processed in modern WTE facilities, they can help other wastes combust more completely, leaving less ash for disposal.

The Canadian Energy-From-Waste Coalition (CEFWC) represents industry, associations, and other stakeholders committed to sustainable environmental policies. CEFWC stands for the promotion, adoption, and implementation of energy-from-waste (EFW) technology for the management of residual materials within the context of an integrated solid waste management system. Recognizing that EFW solutions are compatible with proactive recycling and other diversion efforts, the coalition seeks to promote the merits of the thermal treatment of waste to recovery energy and garner support for waste derived fuels. For additional information, please visit [www.energyfromwaste.ca](http://www.energyfromwaste.ca).



NOVA Chemicals' United States Operating Center is a member and sponsor of the Southwestern Pennsylvania Household Hazardous Waste Task Force. The mission of the organization is to facilitate the proper collection and disposal of household hazardous waste (e.g., automotive products, lawn and garden chemicals, oil-based paint) and minimize its generation through education. The HHW Task Force holds collection events each year throughout the Southwestern Pennsylvania region to help residents safely and properly dispose of their unwanted and outdated household chemical products.

#### DID YOU KNOW?

In the U.S., 87 EFW plants operate in 29 states, utilizing about 8% of the country's municipal solid waste and generating approximately 2,700 megawatts of clean electricity. Moreover, unlike other types of renewable resources, energy-from-waste is considered base load power that operates 24 hours per day, 365 days per year.

For every megawatt of electricity generated through the combustion of solid waste, a megawatt of electricity from conventional (e.g., coal or oil-fired power plants) is avoided, creating a net savings of emissions of greenhouse gases (i.e., carbon dioxide). For example, a recent study of a 1,650 tonne-per-day EFW facility in Saugus, Massachusetts, determined that about 297,000 tonnes of carbon dioxide equivalent emissions are avoided annually because of the operations of this one plant.

To learn more about NOVA Chemicals' position on WTE, please look under "Environment" in the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com).

Access to all types of consumer plastic recycling has improved for Canadians over the past four years, including film and bags, to which 44% of Canadians had access in 2005 and 53% now have access. Those figures do not include retail and grocery store take-back programs. Some 98% can conveniently recycle PET beverage containers, the same as in 2005. Non-beverage PET recycling access jumped from 77% in 2005 to 91%.

For additional information on plastics reuse, recycling and recovery, please visit [www.americanchemistry.com](http://www.americanchemistry.com) and [www.cpia.ca/epic](http://www.cpia.ca/epic).

## ENVIRONMENTAL PROTECTION

### DID YOU KNOW?

The American chemistry industry invested \$14 billion in environmental, health and safety programs in 2008.

The chemical industry continues to produce more with less impact on the environment. Since 1988, the U.S. chemical industry has reduced emissions of core chemicals by 83% while increasing production by 50% during the same time period.

NOVA Chemicals believes that sound and sustainable environmental stewardship and the careful management of our natural resources — including air, land and water — simply make good business sense.

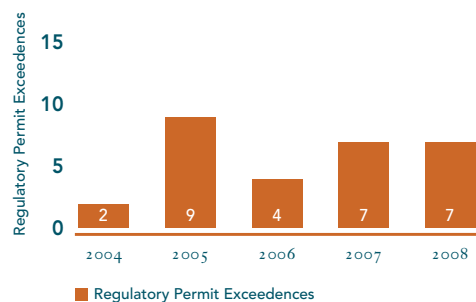
### ENSURING COMPLIANCE, TRACKING PERFORMANCE

We have established companywide systems and procedures to continuously improve our environmental performance and protect the well-being of our communities.

A critical element of our approach is tracking key environmental performance indicators that help us understand our progress in managing the use of our valuable natural resources and in reducing environmental releases, emissions and hazardous waste.

Since 2000, we have been setting short- and long-term performance targets for a wide range of environmental indicators, including regulatory permit exceedences, hazardous waste, atmospheric emissions, spills and releases, and community complaints. Our companywide Responsible Care Council reviews our performance and establishes targets that help to drive continuous improvement throughout our operations.

### REGULATORY PERMIT EXCEEDENCES



In 2008, our RPEs were due to flaring, malfunction of environmental sampling equipment and minor environmental releases. There were no community or significant environmental impacts related to these events. In 2005, the Ontario Ministry of the Environment conducted an intensive inspection program of all large industrial facilities in the Sarnia-Lambton area of Ontario, Canada. Our total number of RPEs rose as an outcome of this activity, but these RPEs were primarily due to administrative and records management issues. No significant regulatory or permit infractions were identified at any of NOVA Chemicals' Ontario manufacturing facilities.

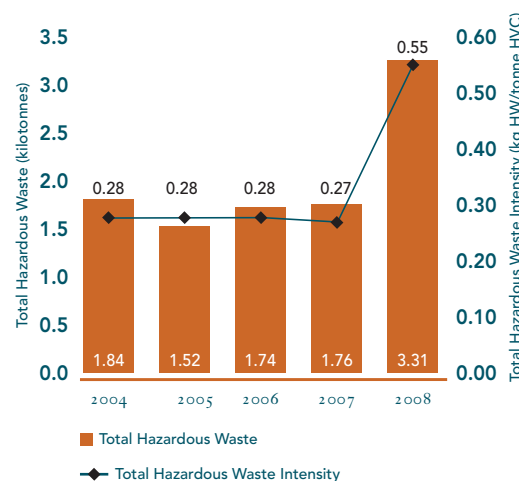
### Regulatory Permit Exceedences

All NOVA Chemicals manufacturing sites are issued environmental permits by government agencies that oversee specific operations and enforce regulatory requirements. When a site is not fully compliant with a legal requirement, this is described as a regulatory permit exceedence (RPE).

### HAZARDOUS WASTE

We are committed to systematically reducing hazardous and non-hazardous waste generation from our manufacturing sites.

### TOTAL HAZARDOUS WASTE



Two major factors contributed to the unusual spike in our total hazardous waste in 2008. The first was the turnaround and subsequent upset condition experienced at the Joffre, Alberta, Ethylene 3 facility. The generation of a large volume of non-routine waste during the turnaround accounted for nearly half of our 2008 hazardous waste. Furthermore, the increased throughput at the Ethylene 1 and Ethylene 2 facilities to compensate for the offline Ethylene 3 facility added an additional 100 kilotonnes of routine hazardous waste. The second major contributing factor was directly related to low density polyethylene production at our Moore Township, Ontario, facility. Over 90% of the routine hazardous waste shipped off-site from the Moore site consisted of poly oils/waxes and spent isopropyl alcohol (IPA) associated with an upset of the refining column.

## WORKING WITH OTHERS TO MANAGE GREENHOUSE GAS EMISSIONS

Greenhouse gas (GHG) emissions and air quality are important public policy issues and require the involvement of all stakeholders. NOVA Chemicals works co-operatively with others in our industry, multi-stakeholder groups, communities and governments to develop and implement effective solutions.

We continue to work with North American federal, provincial and state governments to encourage regulations that are economically sustainable and support the development of transformational technology that can be shared globally.

We play a leadership role in both the Canadian Chemical Producers' Association (CCPA) and the American Chemistry Council (ACC). Both organizations and their members are committed to continuous improvement in addressing

climate change. Members have dramatically improved energy efficiency, and significantly reduced both GHG emissions and intensity.

NOVA Chemicals has always placed a priority on research and technology development. We continue to work with a number of academic and industry research partners, and with our customers and suppliers to further the development of technology that drives step-change improvements in energy efficiency and delivers energy-saving products. This approach will help to reduce GHG emissions intensity for industry as well as individual consumers.

We encourage governments to aggressively advance, support and leverage technology development that can be implemented domestically and globally in order to achieve the required step-change improvements in our industry GHG emissions profile.

### DID YOU KNOW?

ACC member companies are required to report energy efficiency and GHG intensity data, and aggregate performance is publicly reported — the only industry group to do so.



As part of our environmental stewardship and sustainability efforts, NOVA Chemicals now utilizes landfill gas as a fuel source at our Painesville, Ohio, manufacturing site. Landfill gas is an alternate fuel source generated by the decomposition of municipal waste. Until recently, only a portion of the gas was utilized with the remainder of the gas flared by the local landfill with no economic or societal benefits. In cooperation with the Ohio Environmental Protection Agency, we developed a process to allow the use of this landfill gas to fire our steam boilers at the site. Once fully optimized, the system will reduce our natural gas usage by more than 60%, conserve a valuable natural resource and improve local air quality by eliminating the greenhouse gas emissions previously associated with flaring the landfill gas.



## DID YOU KNOW?

In the past 20 years, ACC member companies have reduced absolute greenhouse gas emissions by 16% between 1990 and 2008. NOVA Chemicals reduced our absolute greenhouse gas emissions by 25% during the same time period.

Measuring and managing the energy efficiency of manufacturing facilities is an important step in conserving the world's resources. Since 1974, the U.S. chemistry industry has reduced fuel and power energy consumed per unit of output by nearly half, with many of the improvements coming from more energy-efficient products and processes.

For every unit of greenhouse gases (GHGs) emitted by the chemical industry, society saves more than two units of GHGs through use of chemistry products and technologies. By 2030, the GHG savings-to-emissions ratio could increase to more than 4:1, provided further emissions reduction steps are taken by industry, policy-makers and other stakeholders.

Some dramatic examples of the GHG emissions savings enabled by chemistry include (ratio of emissions savings to emissions):

- Building insulation foam: 233:1
- Foam coating in district heating: 231:1
- Glass and carbon fiber for wind turbines: 123:1
- Synthetic diesel additives — fuel efficiency improvements: 111:1
- Compact fluorescent lighting: 20:1
- Polymers for automotive weight reduction: 3:1

## OUR STRATEGY TO ADDRESS GHG EMISSIONS

NOVA Chemicals believes that GHG solutions must both protect the environment and enable economic growth and its benefits — including reinvestment into new technology. We have developed our strategy to reduce GHG emissions intensity to reflect our principles for sustainability and our commitment to Responsible Care. Our strategy focuses on:

### 1. New Technology to Drive Step-Change in Energy Efficiency and GHG Intensity

**Reduction.** We believe the most effective solutions to climate change will be achieved through transformational technology that drives step-change improvements in energy efficiency around the world.

Since 80% of our manufacturing costs are fuel and feedstock related, energy efficiency measures make environmental as well as business sense. During the past five years, we have invested more than \$250 million in technology development which leads to improvements in our products and operations, reduces energy use, and correspondingly, GHG emissions per unit of production.

### 2. Continuous Process Improvements in Our Facilities.

NOVA Chemicals has always placed an emphasis on continuous improvement in our processes and facilities. With the acquisition of our company by the International Petroleum Investment Corporation, we expect greater opportunities to build on our world-class technology and apply it globally. We continue to invest in projects that improve our manufacturing capability and energy efficiency which in turn improves our GHG emissions profile.

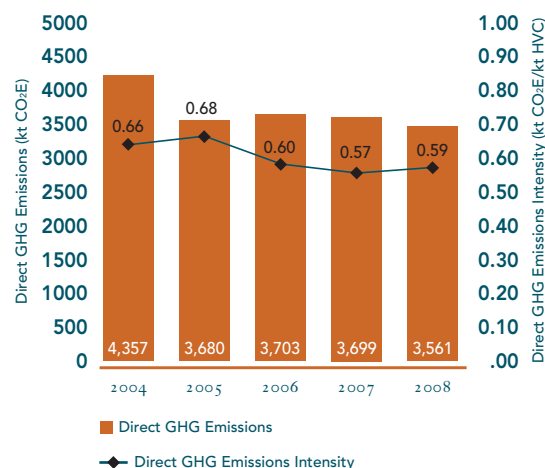
### 3. Partnerships to Improve Energy Efficiency

**Throughout Our Product Chain.** Our commitment to technology and energy efficiency goes beyond improving our own emissions profile. We believe the issue is global and the solutions must also be global. As a result, our approach includes pursuing innovative upstream and downstream partnerships, and improving energy efficiency throughout the product chain-right to the end user.

Our strategy has resulted in overall net GHG intensity improvements. We believe our approach is a good for business and good for the environment.

- NOVA Chemicals' actions to maximize production and energy efficiency have been and continue to be proactive, sustained and capital-intensive.
- Our intensive research and development programs continue in order to achieve energy-related, step-change improvements in our industry and to further the sound and responsible use of plastics in new applications.
- We are working with stakeholders — our employees, suppliers, customers, regulators and industry — to develop and implement effective solutions.
- We continue to report our GHG performance data and encourage stakeholder input and dialogue.

## DIRECT GREENHOUSE GAS (GHG) EMISSIONS CO<sub>2</sub>E



\* Direct GHG emissions from the cogeneration facility in Joffre, Alberta, are excluded.

\*\* Production data includes the range of materials considered to be high value chemical (HVC) products. This includes the primary products and co-products for which chemical plant operation is generally optimized to produce, and these may be consumed in further processing or sold to third parties.



## GHG PERFORMANCE FACTS

- We have been actively working to reduce GHG emissions intensity since 1990 and we have reported our performance publicly since 1994.
- We have reduced our direct GHG emissions intensity from our chemical facilities by more than 10% from 2004-2008.
- We estimate our direct GHG emissions intensity will be reduced by approximately 25% in the 1999 to 2010 timeframe.
- We will continue to utilize cogeneration as a key component of our GHG emissions management strategy. All of our Canadian manufacturing facilities utilize cogeneration to meet their power needs.

Additional details regarding our GHG reduction strategy, projects and performance are outlined in the "Managing Greenhouse Gas Emissions" report available in the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com) under Environment.

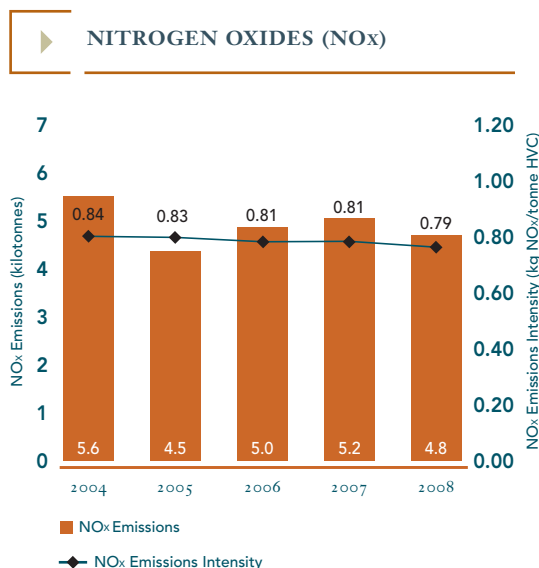
For more on *Where We Stand on Climate Change*, please refer to the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com) under Environment.

## AIR EMISSIONS

As we strive to maximize energy efficiency and reduce GHG emissions, we are also working diligently to address our other air emissions. For example, total Volatile Organic Compounds (VOC) emissions from all of our operations have consistently been less than two kilotonnes over the past five years. Two additional areas of focus in our air emissions program are Nitrogen Oxides (NOx) and Sulphur Oxides (SOx).

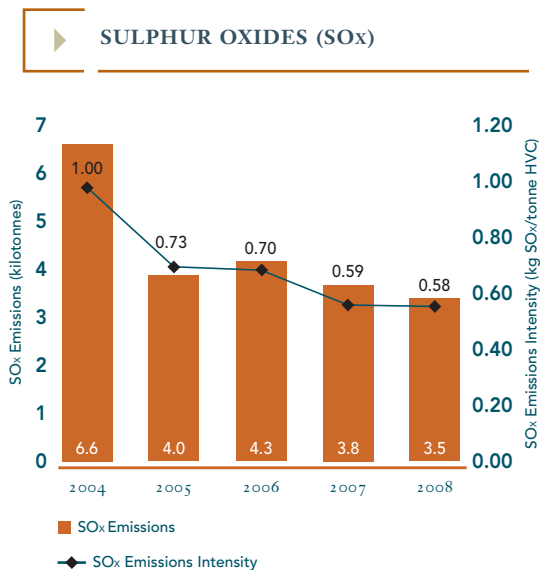
## Nitrogen Oxides (NOx)

There is a direct correlation between our manufacturing rates and emissions performance. As our manufacturing rates increase, our NOx intensity will improve.



## Sulphur Oxides (SOx)

We have improved our SOx emissions performance by cracking lighter feedstock oils in our manufacturing operations at the Corunna, Ontario, site. The lighter feedstock oils result in less SOx emissions in the process off-gas and lower sulphur-containing liquid fuel products.



## DID YOU KNOW?

CCPA members have reduced their emissions to air, water, and land by more than 87% since 1992. Emissions of known and probable carcinogens have declined by 95%, and ozone-depleting emissions have declined by 66% from 1992 volumes.

For more information on emissions reductions in Canada, please read the CCPA's "Reducing Emissions Report" available at [www.ccpa.ca](http://www.ccpa.ca).

#### DID YOU KNOW?

One way the business of chemistry is improving its energy efficiency is through the use of combined heat and power (CHP), also known as cogeneration. CHP is the simultaneous generation of electricity and heat from a facility located near the manufacturing facility. Because most CHP facilities use natural gas and create two forms of energy (electric power and steam) with the same amount of fuel, they are often twice as efficient as older, coal-burning electric utilities. CHP is responsible for nearly 25% of our industry's power requirements.

#### RECLAMATION AND DISMANTLING

The safe dismantling of obsolete or legacy facilities, mitigation of environmental concerns associated with these facilities, and the divestitures of these properties are important facets of our environmental program. We strive to manage all site dismantling and remediation in a sustainable manner, exemplified by our application of state-of-the-art remediation technologies and commitment to salvage and recycle assets and scrap materials.

Since 2000, work has been performed at 14 inactive sites in the U.S. and Canada. Seven of the 14 sites have been dismantled, remediated and divested for continued industrial, commercial or recreational use. In 2008, our former Montreal, Quebec, site was dismantled, and we are proud to report that all usable equipment and raw materials were sold for re-use and all remaining metal scrap was properly recycled.

Four leased sites were cleaned and returned to the property owners, and the remaining sites in Copley, Ohio, and Chattanooga, Tennessee, have ongoing remediation in progress. All sites that required significant remediation were certified clean by state or provincial environmental regulatory agencies prior to resale. We are proud to report that all legacy properties were cleaned and divested safely, with no recordable employee or contractor injuries.

In addition to our work at inactive sites, NOVA Chemicals has also supported environmental and dismantling activities at our active manufacturing sites. Activities included asbestos removal, subsurface remediation, and partial site dismantling at facilities in the U.S., Europe, Canada and Chile.



NOVA Chemicals helped to transform 6,000 acres of legacy coal mining properties in central Pennsylvania by installing state-of-the-art treatment systems designed to prevent acidic mine water from impacting local trout streams. After the remediation was completed, a cooperative agreement was reached with state agencies and the local community for them to assume responsibility for the property and to operate and maintain these systems. The site has since been developed into the Rock Run Recreation Area, the largest all-terrain vehicle park in Pennsylvania. The park promotes responsible trail riding and environmental stewardship to visitors.



# OCCUPATIONAL HEALTH, INDUSTRIAL HYGIENE AND SAFETY

NOVA Chemicals' health, industrial hygiene and safety programs are a reflection of our core Responsible Care principle — that people are our most valuable asset.

## HEALTH

We implement occupational health and industrial hygiene programs that help protect the health of employees and their families, our communities and our customers. On-site health programs verify that employees are fit to work, and monitoring programs help to ensure that we minimize any exposures. Examples of recent efforts include the implementation of occupational health and hygiene software for managing employee medical and exposure records, a risk-based medical monitoring matrix and a workplace exposure assessment procedure. These systems help us to effectively track, trend and promote the health and wellness of our employees.

We also employ broader approaches to health and wellness, such as our companywide "Balance" initiative. This initiative educates employees about maintaining and improving overall health and wellness at work and at home, and it encourages them to share this information with their families.



Health and wellness vendors offered educational materials and answered employee questions at the annual Health & Wellness Fair at our Beaver Valley site in Monaca, Pennsylvania. Many employees got to "Know Their Numbers" by taking advantage of blood pressure screenings, glucose and cholesterol testing — rounding out the day with a healthy lunch and low-fat yogurt.

## INDUSTRIAL HYGIENE

At NOVA Chemicals, Industrial Hygiene programs are used to recognize and evaluate chemical, physical and biological hazards in the workplace. These assessments, in conjunction with hazard communication programs, exposure control efforts, engineering solutions and the use of personal protective equipment, help to protect employees and contractors from the risk of developing a work-related illness.



In some of our manufacturing operations, sand is spread in areas to aid in traction during the winter months. Exposure monitoring was used to determine the airborne concentrations of silica created while dry sweeping this sand to ensure that workers were not subject to any breathing risks during the spring cleanup. As a result of this monitoring, it was determined that workers required respiratory protection when dry sweeping. The practice of dry sweeping has been minimized and water is now commonly used to dampen the sand before sweeping to reduce dust.

## DID YOU KNOW?

The County of Lambton, Community Health Services Department presented NOVA Chemicals' Ontario manufacturing sites with a Gold Award for 2008. The focus of the awards program is to promote healthy living behaviors to aid in the prevention of chronic diseases. This is the fourth consecutive year that these sites have received this award for their commitment to a healthy lifestyle for employees and their families at work and at home.

The Workers' Compensation Board of Alberta and Alberta Employment and Immigration presented an award to our manufacturing site in Joffre, Alberta, and Canadian Operating Centre site in Calgary, Alberta, for their participation in the Partnerships in Injury Reduction program. The program recognizes employers that are diligent in safety, effective in disability management and take responsibility for creating safer and healthier workplaces.

## DID YOU KNOW?

American Chemistry Council (ACC) member companies have an employee safety record that is more than four times safer than the average of the U.S. manufacturing sector. Workers are safer in the chemistry business than those in retailing, agriculture, food stores and general merchandising.

ACC member companies have reduced their recordable injury and illness incidence rates by 72% since 1990.

Companies in the U.S. chemical industry spend more than \$2 billion per year on programs to continually improve worker health and safety.

## SAFETY

NOVA Chemicals operates on the premise that all work-related illnesses and injuries can be prevented, and our goal is to foster a culture that focuses on the critical importance of safe behaviors, both on- and off-the-job. Our companywide initiatives and programs raise awareness and educate our employees in order to help them work safely. We focus on safety fundamentals such as task analysis, ergonomics and behavior-based safety programs, and employ critical safety procedures in areas such as confined space entry, lockout/tagout and fall protection.

We drive improvements in our safety practices and performance across the company through hazard recognition, co-worker safety observations and promotion of best practices. When an incident or injury does take place, we investigate the event and record the findings in our data management system. This allows us to share information across the company in order to minimize the risk of recurrence.

NOVA Chemicals also employs a Safety Leadership Perception Survey to gauge the effectiveness of our leaders on safety issues. We believe that strong leadership which promotes personal accountability and responsibility drives our safety performance and helps to keep our employees and contractors safe, as well as improved operations reliability, lower costs and higher productivity.

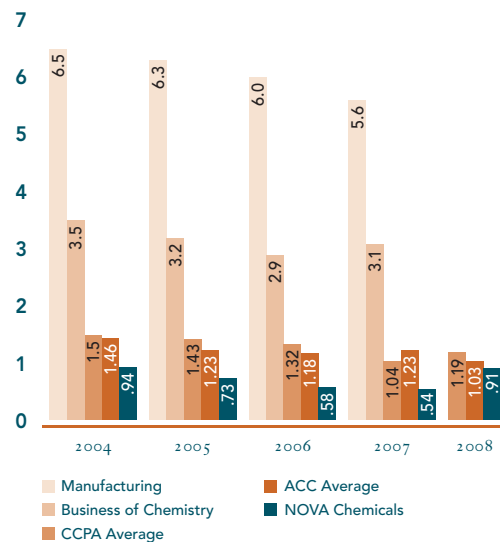
As a result of these efforts, NOVA Chemicals achieved an Employee Total Recordable Case Rate (TRCR) of 0.91 in 2008. Our performance declined from our 2007 TRCR of 0.54 primarily due to ten slip, trip and fall incidents. Steps and inclement weather (snow/ice) were responsible for 60% of these incidents. We have since re-emphasized our focus on safety basics and implemented new training and awareness programs to help keep our employees safe.

We were pleased to record our best-ever Contractor TRCR of 1.34 for 2008. We achieved these results through attention to routine contractor work processes, field leadership, pre and post-shift activity communication sessions, and job-specific orientation.



Respiratory and other personal protective equipment is carefully selected and fitted to help keep workers safe at all NOVA Chemicals manufacturing sites and research facilities.

## TOTAL RECORDABLE CASE RATE\* COMPARISON (TRCR)



\* Total Recordable Case Rate (TRCR): The number of away from work cases, medical treatment cases or restricted work cases (where the work routine is restricted due to the work-related injury or illness) as a rate per 200,000 hours worked.





NOVA Chemicals' process safety programs include routine monitoring of conditions and inspections of protection systems at our manufacturing sites.

## PROCESS SAFETY MANAGEMENT

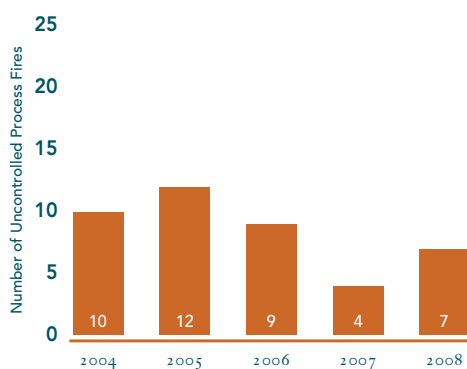
Process safety is defined as a program or activity that involves the application of management, engineering and analytical techniques to focus on the prevention of fires, explosions and accidental chemical releases at chemical process facilities. This is distinct from classic worker health and safety issues such as slips, trips and falls, ladders and scaffolding, use of personal protective equipment, etc.

The effective management of our manufacturing processes is crucial to the safe and efficient operation of our manufacturing facilities. Through stringent process safety programs and procedures, we reduce the risk of uncontrolled manufacturing process events in our facilities.

We construct layers of protection to minimize the occurrence of process related events. Examples of our efforts include maintenance programs to minimize the risk of equipment failure, chemical detectors to identify hazardous conditions and ventilation systems to minimize oxygen depletion.

Process fire prevention is an area of particular focus at NOVA Chemicals, and we believe that our approach is an industry best practice. Any fire or evidence of a flame — even those smaller than a candle flame — in the process area, as well as adjacent spaces such as warehouse and utility areas, is classified as a process fire. These efforts have enabled us to reduce process fires by more than 80% in the 1998-2008 timeframe.

### UNCONTROLLED PROCESS FIRES



**Process Area** - An area where process materials are manufactured, stored, handled or otherwise used, including all utilities, electrical and ancillary equipment associated with these areas. Similar functional areas in pilot plants and laboratories fall under this definition.

**Process Fire** - An unintended oxidation that occurs in a process area that produces flame or glowing embers, or evidence that this has occurred, such as charred or burned material.

**Uncontrolled Process Fire** - Any process fire that cannot be classified as controlled.

**Controlled Process Fire** - The fire potential was anticipated and safeguards put in place to control/contain the fire should it occur, and the fire does not exceed the anticipated consequences, and there was no damage to equipment beyond the initiating failure, and there were no injuries to personnel resulting directly from the fire.

We actively share what we learn about process fires and their prevention with peer companies, and encourage the development of industry standard definitions and methodologies to broaden the use of this approach. The core of our advocacy for improving process safety management and the implementation of process safety metrics is active participation on work committees led by the Center for Chemical Process Safety, the American Chemistry Council and the Canadian Chemical Producers' Association.

### DID YOU KNOW?

Since 1995, process safety incidents among ACC member companies have declined by 52%. During this period, continuous improvement efforts have led to the development and implementation of numerous process safety systems that have contributed to this result. About half of ACC members had no process safety incidents in 2008 — including NOVA Chemicals.

In 2008, the ACC adopted a revised process safety metric designed by the Center for Chemical Process Safety. This change was made to make progress toward our industry's goal for improving benchmarking and transparency of industry performance. The ACC will begin tracking this new metric in 2009 and will publish the information in 2010.

Responsible Care companies are working to make this industry even safer for our employees and communities. Under the Responsible Care initiative, companies are required to investigate significant process safety incidents, mitigate adverse impacts, determine the root causes and complete corrective and preventive actions. Through professional organizations and industry associations, these companies also share important findings from incident investigations, so others can learn from them.

#### DID YOU KNOW?

Since 1995, the number of distribution incidents among ACC member companies declined by 43%, while the volume of chemicals shipped increased 16% for the U.S. chemical industry overall. NOVA Chemicals had zero distribution incidents in 2008.

Safety does not stop at the plant gate. Essential chemical products are needed across the nation and around the world. As a result, large volumes of chemical products are moved domestically and internationally each year.

The safe distribution and handling of chemicals is an important indicator of performance. Responsible Care companies track hazardous material distribution incidents reported to the U.S. Department of Transportation (DOT) and Transport Canada.

Rail transportation is 16 times safer than truck transportation and saves over four times the GHG emissions.

NOVA Chemicals continues to search for innovative ways to save energy and protect the environment. Through efficient fleet management techniques — such as returning railcars to our closest manufacturing plant instead of its point of origin — we have reduced our empty railcar shipments by approximately 3.5 million miles per year for the last five years. Each empty car weighs about 32 tons, which equates to savings of almost 130,000 gallons of diesel fuel. The fuel savings also reduce GHG emissions and allow the railroads to manage their traffic more effectively.

#### TRANSPORTATION SAFETY

Non-Accident Releases (NAR) is a key industry measure that validates and promotes the safe transportation of chemical products. A NAR is defined as the unintentional release of a hazardous material while in transportation — including loading and unloading — that does not involve an accident. NARs are specific to rail shipments of chemicals, and the vast majority of NARs usually involve small amounts of material — often as little as 250 milliliters (or approximately one cup).

NOVA Chemicals shipped more than 8,300 individual rail tank cars containing approximately 1.2 billion pounds of hazardous materials with zero NARs in 2008 — with only one NAR in the past five years (2007). There was no community impact associated with this NAR, which was related to human error during maintenance of a relief device. The third-party maintenance facility updated their procedures to prevent recurrence and improve maintenance procedures.

#### NOVA Chemicals has been recognized for the safe shipping of hazardous materials by the following railroads in 2008:

- The Association of American Railroads/Bureau of Explosives (AAR/BOE) Non-Accident Release Grand Slam Award for exemplary hazardous materials shipments made in 2008. Qualifying companies must be recognized by
- Burlington Northern Santa Fe Annual Product Stewardship Award, presented to shippers who transported a minimum of 500 loaded tank cars of hazardous materials during the past year with zero NARs (releases that are not caused by a derailment or collision) during the entire transportation cycle. NOVA Chemicals has received this award for the last four years and for 11 out of the last 12 years.
- CN Safe Handling Award for meeting strict standards for the safe handling and shipment of regulated products. The winners must meet established criteria, according to the total number of shipments of dangerous goods for all facilities.
- Canadian Pacific Chemical Shipper Safety Award for zero NARs for the last six consecutive years.
- Norfolk Southern Thoroughbred Safety Award for zero NARs for the third consecutive year.
- Union Pacific Chemical Transportation Safety Pinnacle Award to commend our safe loading techniques, securement of shipments and zero NARs for the fourth consecutive year.

at least four Class 1 North American railroads for zero NARs from their rail shipments in a one-year period.

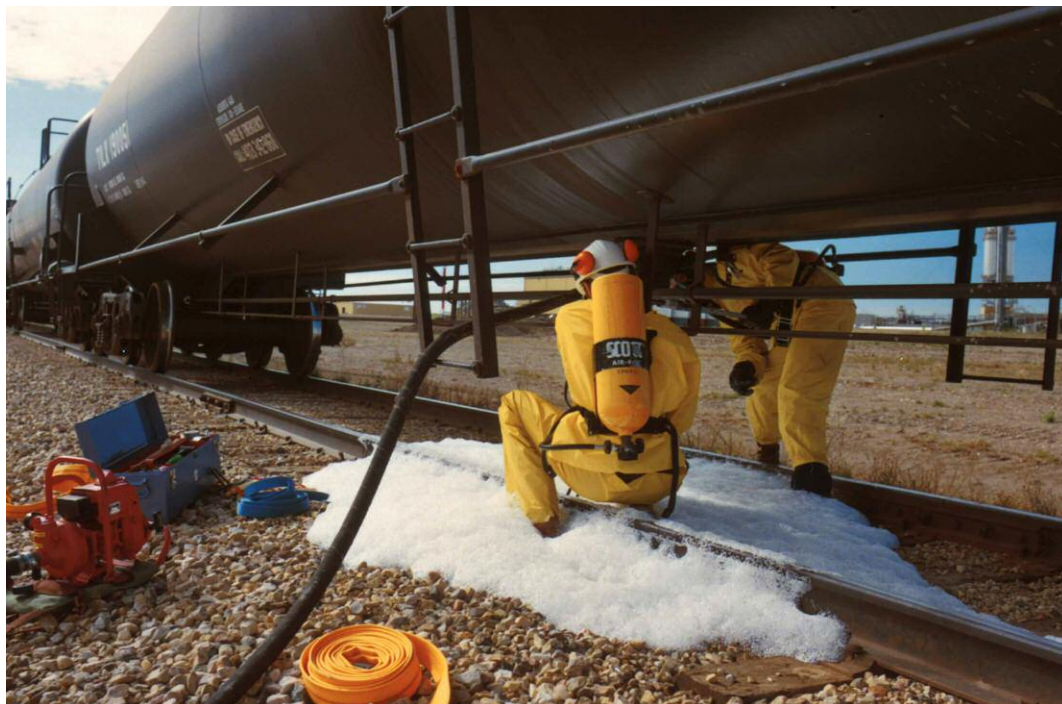


More than 50 covered hopper cars were retired from our rail fleet and replaced with more efficient cars — enabling us to conserve fuel by transporting more product per shipment. The retired cars were dismantled and yielded 21,000 pounds of reusable parts and 48,000 pounds of recyclable steel.



## EMERGENCY PREPAREDNESS AND SECURITY

Emergency preparedness and security are cornerstones of NOVA Chemicals' Responsible Care program.



To help prepare for an emergency, NOVA Chemicals sites conduct emergency response drills with local fire departments and response teams to ensure appropriate measures are in place.

We are always working to identify and mitigate security risks associated with our operations in order to protect our employees, local communities, the environment and our facilities.

Although the products that NOVA Chemicals manufactures have virtually no potential for immediate use as weapons, we continue to take aggressive measures to safeguard our facilities and materials from possible attacks or thefts.

We work to:

- Identify and evaluate gaps in physical security, cyber-security and security procedures on a scheduled basis.
- Close gaps with appropriate countermeasures.
- Verify the effectiveness of countermeasures through the use of independent third parties.



Examples of specific measures that we take at our facilities to enhance security include: visitor identity verification, background checks, employee patrols, digital video recording, increased perimeter lighting, and fence line inspections. We also educate employees regarding security issues; implement strict controls and accountability regarding all aspects of the handling of hazardous chemicals; and further develop our relationships with law enforcement and emergency response personnel.

### DID YOU KNOW?

American Chemistry Council (ACC) member companies have invested more than \$6 billion to secure our facilities and products over the last seven years.

The ACC partners with over 80 materials handling and transportation companies to improve safety and security for materials after they leave chemical manufacturing sites.

### DID YOU KNOW?

In 2008, all ACC member companies were required to re-pledge their ongoing commitment to the Security Code by signing a Security Code Reaffirmation statement which states that companies continue to maintain their Responsible Care Security Code implementation for facility, value chain and cyber security interests at all company chemical operations. NOVA Chemicals is currently in compliance with all aspects of the ACC's Security Code.

The ACC's Responsible Care Security Code was recently designated as a "Qualified Anti-Terrorism Technology" by the Department of Homeland Security. The DHS designation falls under the "Support Anti-terrorism by Fostering Effective Technologies" Act (SAFETY Act).

The ACC is encouraging Congress and the administration to pass legislation that ensures all our nation's chemical facilities are secure from the threat of terrorism under the watchful eye of the federal government.

### PARTNERSHIPS

Each of our facilities is ready to respond to crisis situations. NOVA Chemicals believes that proactive involvement and planning with regional support services plays an important role in protecting our employees, communities and the environment. We continually re-evaluate and test our security through drills with community emergency responders. This includes working closely with law enforcement at local, state and provincial levels, including the U.S. Coast Guard, the FBI and the Canadian Security Intelligence Service.

In March of 2008, NOVA Chemicals participated in Cyber Storm II, a global exercise conducted by the U.S. Department of Homeland Security to measure how governments and the private sector would respond to a massive cyber security threat. Cyber Storm II involved more than 40 companies in the information technology, transportation and chemical industries; 18 federal departments and agencies, including the Department of Defense and the Department of Justice; nine states; Public Safety Canada; and government officials in the United Kingdom, Australia and New Zealand.

Through our membership in the ACC and Canadian Chemical Producers' Association, we joined our industry peers in implementing an aggressive and comprehensive facility security program to further protect our chemical facilities, our chemicals transportation systems, our communities and our products. Under the Security Code — which addresses facility, cyber and transportation security — companies conduct comprehensive facility security vulnerability assessments, implement security enhancements and obtain independent verification of facility enhancements. The Security Code is required of all ACC members and Responsible Care Partners, and includes a strict implementation timeline and mandatory periodic reporting on progress. More than 2,000 ACC member facilities have completed rigorous security vulnerability assessments to strengthen site, information technology and transportation security as part of this program — developed proactively and without government mandate.

### SUPPLY CHAIN SECURITY

NOVA Chemicals was one of the first companies to voluntarily participate in the Customs Trade Partnership Against Terrorism (C-TPAT) program, launched in November of 2001 to enhance supply chain security. The program is managed by the U.S. Customs and Border Protection (CBP) component of the Department of Homeland Security.

The CBP has awarded NOVA Chemicals Tier III status, the highest status offered to an importing company. This status is given to a limited number of companies that have comprehensive programs in place to secure their facilities and supply chain from terrorists, smuggling and narcotics. Only 17 companies were awarded Tier III status in 2007 out of an estimated 8,000 importing companies in the U.S.



The C-TPAT program includes thorough truck inspections. The undercarriage is checked for contraband and seals are inspected and verified against a manifest prior to delivery.

To achieve Tier III status, a company must pass a thorough inspection by Customs and Border Protection and be recommended to C-TPAT Director Bradd Skinner. CBP representatives visited our Calgary and Joffre, Alberta, facilities and characterized seven of our processes as "best practices" in the industry. These include:

- Written and verifiable processes for the selection of business partners including manufacturers, product suppliers and vendors.
- Trade Compliance Network and Customs Compliance Council.



- Continuous improvement of physical security, emergency preparedness and integrated global security standards.
- Procedures for visitor screening.
- Procedures for sealing for railcars and containers.
- A detailed global security plan.

### TRANSCAER® TASK GROUP

NOVA Chemicals participates in Transportation Community Awareness and Emergency Response (TRANSCAER) in North America and is a member of the National TRANSCAER Task Group of the American Chemistry Council. TRANSCAER is an outreach effort that assists communities in preparing for and responding to possible hazardous material transportation incidents.

This partnership between chemical companies and carriers works to reduce transportation incidents and provide technical assistance in the event of an in-transit product release.

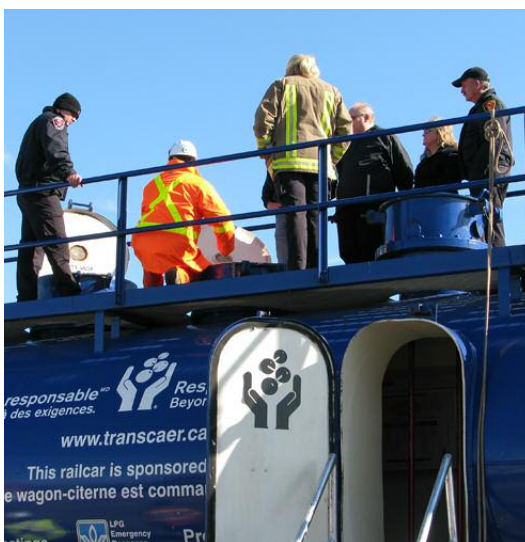
NOVA Chemicals played a lead role in organizing and conducting a TRANSCAER chemical transportation emergency workshop in Chatham, Ontario, on October 22, 2008. The event brought together more than 60 attendees from chemical manufacturers, carriers, police and fire departments, emergency responders and government agencies representing a number of municipalities in southwestern Ontario. The one-day session consisted of classroom presentations and outdoor displays and demonstrations.



Attendees learn about dangerous goods safety marks, emergency shut-off devices and other safety features incorporated into the design of a chemical tank trailer.



Participants and attendees gain valuable insight into the challenges of a rescue operation during an exercise involving a leaking chemical tank trailer.



The CCPA training rail car was used to help attendees learn about the differences between general purpose and pressure tank cars and their built-in safety devices. The training rail car was also utilized in a demonstration of how an emergency response team would install a chlorine capping kit on a safety valve.

### DID YOU KNOW?

The chemical industry created the TRANSCAER program, which provides information and emergency training in communities through which hazardous materials are transported.

NOVA Chemicals is the regional coordinator for TRANSCAER Region 1 (Comprised of 19 states from the Midwest, Mid-Atlantic and Northeast Regions of the U.S.).

We are also a member of Pennsylvania TRANSCAER (PATC). In 2008, PATC sponsored four interactive tabletop/functional emergency response exercises for county and local emergency responders, and received the TRANSCAER Regional Approach Award for their efforts. PATC has been honored with this award for the past five consecutive years for their leadership and distinguished work in community outreach and training at the county level.

## RESPONSIBLE CARE IN OUR COMMUNITIES

### DID YOU KNOW?

Our largest manufacturing complexes have community websites to help inform and educate the public about our operations. To learn more, please visit the Sarnia-Lambton, Ontario, ([www.novachem.com/SarniaLambton](http://www.novachem.com/SarniaLambton)) and Joffre, Alberta, ([www.novachem.com/Joffre](http://www.novachem.com/Joffre)) community websites.

Under Responsible Care, American Chemistry Council and Canadian Chemical Producers' Association members must be active in community dialogue with neighbors and other stakeholders in their area. The chemical industry sponsors more than 300 CAPs in the U.S. and Canada in order to solicit input from and improve communications with towns and cities where we live and work.

We believe that sustainable business success demands positive and open long-term relationships with all of our stakeholders.

As part of this commitment, we work to inform our communities about our facilities, operations and products. We make concerted efforts to understand and respond to the concerns of local communities and residents and seek their input about our plans and operations through Community Advisory Panels (CAPs), Local Emergency Planning Commissions, training programs, community events, seminars and forums, open houses, and personal visits.

NOVA Chemicals also invests in the well-being of our communities through organizations, programs and events that support emergency services partnerships, health, science and technology education, and sustainable reuse and recycling initiatives.

Wherever possible, NOVA Chemicals sites participate in environmental programs that benefit their local communities.



**Responsible Care®**  
Our commitment to sustainability.



Three NOVA Chemicals sites in Calgary, Alberta, adopted a stretch of the Bow River near our Canadian Operating Centre (CanOC) in downtown Calgary. The effort was part of the Great Canadian Shoreline Clean-up, a 15-year old national initiative designed to raise awareness and change attitudes about shoreline litter. Employees and family members from CanOC and two Calgary Technology Centres devoted a Saturday morning to clean up the adopted river bank. The team removed items such as building materials, plastic containers, batteries and an air pump to prevent them from further damaging waterways.



Employees from the Joffre, Alberta, site participated in the Red Deer River Clean-Up to help make the waterways and path system of the Red Deer River safer and more beautiful. NOVA Chemicals also provided polyethylene trash bags and sponsored the volunteer luncheon.





The Beaver Valley site in Monaca, Pennsylvania, partnered with AES Corporation to participate in the annual Ohio River Sweep. A team of 34 people donated their time and cleaned up a section of the Ohio River bank, collecting 25 bags of garbage, 29 tires and other miscellaneous items including plastic barrels, propane cylinders, skids, a gas tank and even a washing machine!



Employees from NOVA Chemicals' Calgary, Alberta sites were amongst the 1,600 volunteers who participated in the Annual Calgary Pathway and River Cleanup. Their efforts contributed to the collection of 3,500 bags of garbage in three hours.



Employees from the Joffre, Alberta, site participated in the annual Red Deer Urban Forestry Project tree planting for the tenth consecutive year. NOVA Chemicals employees have planted over 5,000 tree seedlings at various Red Deer, Alberta, locations since joining the project. The most recent planting location created a natural barrier to help deter wildlife from getting too close to a busy roadway.

#### DID YOU KNOW?

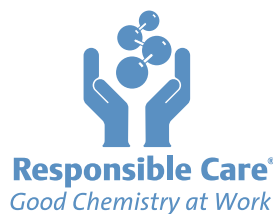
As a company, we believe in the importance of promoting science and technology education to help children and community members learn about careers in the chemical industry. Our manufacturing, technology and office sites participate in local career and technology fairs and sponsor career days, "Take Your Kids to Work Days," internships and mentoring programs.

# QUESTIONS? COMMENTS? WE INVITE YOU TO CONTACT US.

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**CANADA** 403.750.3600

**U.S.** 412.490.4000 **OR** 1.866.ASK.NOVA



Additional information about our Responsible Care programs, performance and sustainability efforts is available in the Social Responsibility section of [www.novachemicals.com](http://www.novachemicals.com).

To learn more about Responsible Care and sustainability in the chemical industry, please visit the websites of our major trade associations:

**American Chemistry Council (ACC):**

- [www.americanchemistry.com](http://www.americanchemistry.com)
- [www.americanchemistry.com/responsiblecare](http://www.americanchemistry.com/responsiblecare)
- ACC's Plastics Division: [www.americanchemistry.com/plastics](http://www.americanchemistry.com/plastics)
- TRANSCAER®: [www.transcaer.com](http://www.transcaer.com)

**Canadian Chemical Producers' Association (CCPA):**

- [www.ccpa.ca](http://www.ccpa.ca)
- [www.responsiblecare.ca](http://www.responsiblecare.ca)

**The ACC and the CCPA are both members of the International Council of Chemical Associations (ICCA):**

- [www.icca-chem.org](http://www.icca-chem.org)
- [www.responsiblecare.org](http://www.responsiblecare.org)

**Canadian Plastics Industry Association (CPIA):**

- [www.cpia.ca](http://www.cpia.ca)
- Canadian Environment and Plastics Industry Council (EPIC): [www.cpia.ca/epic](http://www.cpia.ca/epic)
- [www.plastics.ca](http://www.plastics.ca)



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