



Toxic Reduction

2014 Plan Summary

Ethanol

Amended: April 11, 2016

388 Goodyear Rd.

Napanee, Ontario



SUBSTANCE AND FACILITY INFORMATION

Toxic Substances	
Substance Name	Ethanol (Ethyl Alcohol)
CAS #	CAS 64-17-5
Other toxic substance plans	Zinc (7440-66-6), Methyl Iso-Butyl Ketone (108-10-1), Toluene (108-88-3), Xylene (1330-20-7), PM10, PM 2.5
Facility Information	
Legal Company Name	Goodyear Canada Inc.
Facility Name	Napanee
Facility / Mailing Address	388 Goodyear Road, R.R. 7, Napanee, ON, K7R 3L2
Web Site Address	https://corporate.goodyear.com/en-US/about/mission.html
Spatial Coordinates of Facility	UTM Easting: 344558.90; UTM Northing: 4905595.73; UTM Zone 18T
Number of Full Time Employees (or equivalents)	764
NPRI ID#	1322
O.Reg 127/01 ID	NA
Primary North American Industrial Classification system Code (NAICS)	
2 Digit NAICS Code	31-33 - Manufacturing
4 Digit NAICS Code	3262 (Rubber Product Mfg.)
6 Digit NAICS Canada Code	326210 (Tire Manufacturing)
Facility Public Contact Information	
Name & Title	Julie McLachlan (Mixing Compounder & Environmental Coordinator), 613-354-7835
Certified Planner Contact	
Name	Ted Bailey (ted@auris.ca , 613-893-3680, TSRP0031)
Corporate Headquarter Contact Information	
Address	The Goodyear Tire and Rubber Company 200 Innovation Way Akron, OH 44316, USA
Phone	330-796-6862
Percentage Ownership	100%



INTRODUCTION

Ontario's *Toxics Reduction Act* and Regulation (O.Reg 455/09) aims to protect the health of people and the environment by reducing the use and emission of toxic substances. The Act is the cornerstone of Ontario's Toxics Reduction Strategy, which is focused on:

- Managing and reducing the use and creation of toxic substances in order to protect the environment and human health
- Informing the public about toxics in their communities; and
- Helping ensure that Ontario is well-positioned to compete in an emerging green global economy.

This strategy supplements the traditional 'end of pipe' approach to managing toxic substances released into the environment by focusing on reducing the creation and use of these substances at the 'front end' of manufacturing processes.

The act requires regulated facilities to:

- Track and quantify the toxic substances that they use and create
- Develop plans to reduce the use and creation of these substances; and
- Make summaries of their plans available to the public.

Goodyear Napanee manufactures high quality tires for the North American Tire (NAT) market and is a certified ISO14001:2004 facility. The creation of Ethanol is due to the use of coupling agents, which create ethanol emissions during mixing and curing processes.

Goodyear Canada Inc.'s (Goodyear's) facility located in Napanee, Ontario, Canada (Goodyear Napanee) has developed a Toxic Reduction Plan for ethanol pursuant to the Act.

This Plan Summary summarizes the Ethanol Toxic Reduction Plan for the Napanee facility. It has been prepared to meet the regulatory obligations specified in Section 10 of the Act and Section 27(1) of Ontario Regulation 455/09, as amended from time to time.

Note: The Ethanol Toxic Reduction Plan was originally prepared in the spring of 2015 (using 2013 data). It was updated in spring of 2016 (using 2014 data) to address minor issues noted in the 2015 Environmental Compliance Audit and to apply improvements in accounting methods in order to comply with NPRI reporting requirements (as permitted under Section 7(b) of O.Reg 455/09).



PLAN SUMMARY STATEMENT

This plan summary accurately reflects the content of the toxic substance reduction plan for ethanol, prepared by Goodyear (Napanee) and dated April 11, 2016.

FACILITY DESCRIPTION

Goodyear Napanee manufactures high quality tires for the North American Tire (NAT) market and is a certified ISO14001:2004 facility. The Napanee facility operates 24 hours per day, 7 days a week and ~360 days a year.

EXPLANATION FOR SUBSTANCE USE OR CREATION

The use of silica (which offers many safety and environmental benefits to the consumer) requires a coupling agent, which creates ethanol emissions during mixing and curing processes. Tire treads made with silica containing rubber offer many safety and environmental benefits:

- Up to 5 % savings in fuel consumption (based on a 20% reduction in rolling resistance), which can save the motorist the cost of the tires over their lifespan;
- An improvement in wet skid performance by as much as 15 %, substantially improving braking distances at the same time; and
- Substantial benefits at lower temperatures in both winter and all-season tires, allowing better grip and braking during winter weather.

STATEMENT OF INTENT

It is not the intent of Goodyear to reduce ethanol emissions because there are no technically and economically feasible options that provide improved environmental performance. However, Goodyear Napanee is committed to playing a leadership role in protecting the environment. We will continue to work on researching and developing all options to reduce Ethanol emissions, including chemically treated silica, which have little ethanol emissions.

OPTIONS FOR IMPLEMENTATION

To reduce the production of Ethanol at the Goodyear Napanee facility, Goodyear Napanee has considered many options. The use of a Regenerative Thermal Oxidizer is the most viable option, but the high capital and operating costs and increased emissions from natural gas burning (CO₂e and particulate) make this option not feasible at this time.



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There is also research and development work on a Chemically Treated Silica. In this case the organo-silane is already reacted with the Silica so there is little Ethanol emissions. This is still a development component from the supplier and extensive testing is being done to determine the feasibility of this material. Goodyear will continue to work on researching and developing all options to reduce Ethanol emissions.

TOXIC REDUCTION OBJECTIVES & TARGETS

Technically and economically feasible options have not been identified at this time which reduce the creation or release of ethanol and offer similar or improved product benefits.



CERTIFICATION

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of August 17th, 2016, I, Lester Brooks, certify that I have read the toxic substance reduction plan for the toxic substance referred to below and am familiar with its contents, and to my knowledge the plan is factually accurate and complies with the *Toxic Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

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Lester Brooks, Plant Manager
The Goodyear Tire and Rubber Company (Napanee)

CERTIFICATION BY LICENSED PLANNER

As of August 17th, 2016, I, Ted Bailey, certify that I am familiar with the processes at Goodyear (Napanee) that use or create the toxic substance referred to below, that I agree with the estimates referred to in subparagraphs 7 iii, iv and v of subsection 4 (1) of the *Toxic Reduction Act, 2009* that are set out in the plan dated April 11th, 2016 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Ethanol

Ted Bailey [Planner License # TSRP0031]
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