

TRA PLAN SUMMARY – PARTICULATE MATTER <2.5µm

BASIC FACILITY INFORMATION

Name & CAS # of Substances	PM2.5	NA
Substance for which other Plans have been prepared	PM10	NA
Facility Identification and Site Address		
Company Name	Mondelez Canada Inc.	
Facility Name	Hamilton Confectionary	
Facility Address	45 Ewen Road Hamilton, Ontario L8S 3C3	
Spatial Coordination of Facility	586731.77m Easterly 4789731.46m Northerly	
Number of Employees	400	
NPRI ID	11833	
Parent Company (PC) Information		
PC Name & Address	Mondelez International Three Park Way North Deerfield, Illinois 60093 USA	
Percent Ownership for each PC	100%	
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	31-33 – Manufacturing	
4 Digit NAICS Code	3113 – Sugar and Confectionary Product Manufacturing	
6 Digit NAICS Code	311340– Non-Chocolate Confectionary Manufacturing	
Company Contact Information		
Facility Public Contact:	Alamin Bhimani, SSE Manager	Same as facility address
	905-526-7212 ext 5265244	

	Alamin.bhimani@mdlz.com	
Facility Technical Contact:	Alamin Bhimani, SSE Manager	Same as facility address
	905-526-7212 ext 5265244	
	Alamin.bhimani@mdlz.com	
Person who Prepared the Plan: (if different from the Coordinator)	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	kryan@croworld.com	651 Colby Drive
	Phone: (519) 884-0510 ext. 2283	Waterloo, ON
	Fax: (519) 884-0525	N2V 1C2
Highest Ranking Employee	Andres Ruiz, Plant Manager	Same as facility address
	905-526-7212 ext 5265211	
	aruiz@mdlz.com	
Planner Information:		
Planner Responsible for Making Recommendations	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	Planner License No. TSRP0009	651 Colby Drive
	kryan@croworld.com	Waterloo, ON
	Phone: (519)884-0510 ext. 2283	N2V 1C2
	Fax: (519) 884-0525	Conestoga-Rovers & Associates Ltd.
Planner Responsible for Certification	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	Planner License No. TSRP0009	651 Colby Drive
	kryan@croworld.com	Waterloo, ON
	Phone: (519)884-0510 ext. 2283	N2V 1C2
	Fax: (519) 884-0525	Conestoga-Rovers & Associates Ltd.

TOXIC REDUCTION POLICY STATEMENT OF INTENT

The Mondelez Canada Inc.'s Hamilton Confection Plant (Hamilton Confectionary Plant) creates Particulate Matter <2.5 µm (PM2.5) in three processes. The Facility does not intend to reduce the creation of this toxic substance at the Facility

REDUCTION OBJECTIVES

Mondelez produces high quality products in an environmentally responsible manner. Mondelez's manufacturing operation has been optimized to minimize the use of raw materials. Mondelez will strive to reduce the creation of PM2.5 at the Facility in the future should an option become available.

DESCRIPTION OF FACILITY

The Mondelez Facility is a chocolate confectionary plant. The Facility uses a variety of raw materials that are mixed with chocolate to produce a variety of products, before being packaged and shipped to customers.

The North American Industry Classification System (NAICS) Code that applies to this Facility is 311330 – Confectionary Manufacturing from Purchased Chocolate.

In 2012, the Facility operates their manufacturing process 24 hours per day, 7 days per week for 52 weeks per year.

TOXIC SUBSTANCE REDUCTION OPTIONS

After looking into the seven categories of toxic substance reduction options, no options were identified. Explanations are provided in the table below to detail why an option could not be identified in each category.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
1) Materials or feedstock substitution	No option identified: Sugar and starch are essential ingredients used at the Facility which result in the creation of PM-10 and PM2.5 during loading and unloading operations at the silos. The Hamilton Confectionary uses sugar and starch in very specific amounts per batch. The substitution of these raw materials used for production would require extensive efforts from the Research & Development group. Potential substitutions of sugar and/or starch would require plant trials, testing and paneling to analyze product quality. Product characteristics such as size, colour, taste, smell and visual appeal cannot be compromised. There are no alternatives available at this time to substitute sugar and/or starch to reduce creation of PM-10 and PM2.5.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
2) Product design or reformulation	No option identified: As noted above, sugar and starch are essential ingredients whose usage play significant roles in the quality of products. Research and Development efforts would be required to re-formulate products to reduce the creation of PM-10 and PM2.5 while ensuring no loss in product quality. There are no options available to reformulate products.
3) Equipment or Process Modification	No option identified: The sugar and starch are transferred from the silos to the mixing stage by a blower. This material transfer occurs in an enclosed structure. Therefore, all sugar and starch required for production are transferred in a manner that does not give opportunity for improvement in the creation and release of PM-10 and PM2.5. The dust collectors, cooling towers and comfort heating equipment also create PM2.5 and cannot be modified to improve the releases from this equipment. There are no available options to modify the equipment or processes at Hamilton Confectionary to reduce the creation of PM2.5.
4) Spill and Leak prevention	No option identified: The Facility has experienced spills of sugar and starch in the past during loading and unloading operations. The Hamilton Confectionary recently had an upset condition in the sugar silo where sugar was discharged into the air caused by a pressure vent popping out. Small spills also occur during the delivery of sugar and starch in the Facility's back yard area. Spill prevention training could be implemented to improve the handling/transferring carried out by supervisors, leads and warehouse colleagues to help avoid spills. Also, the Facility could introduce spill trays or kits to act as spill containment for the silo area and prevent any uncontrolled spills in that area. These options work towards containing spilled sugar or starch at the silos, however they do not eliminate the creation of PM2.5 from the continual operation and required use of these products in the manufacturing process.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
5) On-site reuse or recycling	No option identified: Sugar is reused in the process; it is captured from candy products and recycled back. The off-spec product that cannot possibly be re-used is shipped off-site for animal feed. All raw materials are used for production and there are no further opportunities in the production process to reuse or recycle sugar or starch.
6) Improve inventory management or purchasing techniques	No option identified: Hamilton Confectionary uses a database management system which is a daily encountering computer system to track quantities of products being received on-site and production demands. The production schedule is known for a minimum of two weeks in advance, therefore no surplus storage exists at the Facility. The Silos are kept full at all times based on a fairly constant product demand. The Facility is unable to identify a reduction option related to improved inventory management or purchasing techniques, as they are already doing everything possible in this category.
7) Training or improved operating practices	No option identified: The staff is trained to inspect and monitor process operations to ensure all process equipment is operating properly. Equipment maintenance programs and training on Standard Operating Procedures (SOPs) to ensure efficient operating practices. The Facility operates with a fairly high human interaction as approximately 70 percent of the process being monitored closely by floor workers. There is potential for the implementation of further training for the floor workers that would result in improved operational efficiency and limit off-spec products. The Facility's operational schedule is 7 days per week and 24 hours per day. Therefore, even if employee training and SOPs are improved to reduce Facility waste, the creation of PM2.5 will not be reduced due to the continual operation of the manufacturing process.

PLAN SUMMARY STATEMENT

This plan summary accurately reflects the content of the toxic substance reduction plan for PM2.5.

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

Attached.

CERTIFICATION BY LICENSED PLANNER

Attached.

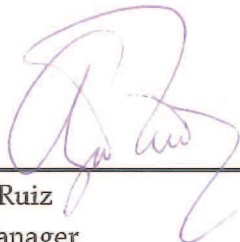
2.0 PLAN CERTIFICATION

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 9th, 2013 I, Andres Ruiz, 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 *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

Particulate Matter 2.5

Particulate Matter 10



Dec 10, 2013

Andres Ruiz

Plant Manager

Mondelez Canada Inc., Hamilton Confectionary Plant

CERTIFICATION BY LICENSED PLANNER

As of December 9th, 2013, I, Kaitlin Ryan, certify that I am familiar with the processes at Mondelez Canada Inc. Hamilton Confectionary Plant 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 *Toxics Reduction Act, 2009* that are set out in the plan dated December 9th, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Particulate Matter 2.5

Particulate Matter 10



Dec 16, 2013.

Kaitlin Ryan

Licensed Toxic Reduction Planner, License # TSRP0009

Conestoga-Rovers & Associates Ltd.

TRA PLAN SUMMARY – PARTICULATE MATTER <10µm

BASIC FACILITY INFORMATION

Name & CAS # of Substances	PM10	NA
Substance for which other Plans have been prepared	PM2.5	NA
Facility Identification and Site Address		
Company Name	Mondelez Canada Inc.	
Facility Name	Hamilton Confectionary	
Facility Address	45 Ewen Road Hamilton, Ontario L8S 3C3	
Spatial Coordination of Facility	586731.77m Easterly 4789731.46m Northerly	
Number of Employees	400	
NPRI ID	11833	
Parent Company (PC) Information		
PC Name & Address	Mondelez International Three Park Way North Deerfield, Illinois 60093 USA	
Percent Ownership for each PC	100%	
Primary North American Industrial Classification System Code (NAICS)		
2 Digit NAICS Code	31-33 – Manufacturing	
4 Digit NAICS Code	3113 – Sugar and Confectionary Product Manufacturing	
6 Digit NAICS Code	311340– Non-Chocolate Confectionary Manufacturing	

Company Contact Information		
Facility Public Contact:	Alamin Bhimani, SSE Manager	Same as facility address
	905-526-7212 ext 5265244	
	Alamin.bhimani@mdlz.com	
Facility Technical Contact:	Alamin Bhimani, SSE Manager	Same as facility address
	905-526-7212 ext 5265244	
	Alamin.bhimani@mdlz.com	
Person who Prepared the Plan: (if different from the Coordinator)	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	kryan@crawlworld.com	651 Colby Drive
	Phone: (519) 884-0510 ext. 2283	Waterloo, ON
	Fax: (519) 884-0525	N2V 1C2
Highest Ranking Employee	Andres Ruiz, Plant Manager	Same as facility address
	905-526-7212 ext 5265211	
	aruiz@mdlz.com	
Planner Information:		
Planner Responsible for Making Recommendations	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	Planner License No. TSRP0009	651 Colby Drive
	kryan@crawlworld.com	Waterloo, ON
	Phone: (519)884-0510 ext. 2283	N2V 1C2
	Fax: (519) 884-0525	Conestoga-Rovers & Associates Ltd.
Planner Responsible for Certification	Kaitlin Ryan	Conestoga-Rovers & Associates Ltd.
	Planner License No. TSRP0009	651 Colby Drive
	kryan@crawlworld.com	Waterloo, ON
	Phone: (519)884-0510 ext. 2283	N2V 1C2
	Fax: (519) 884-0525	Conestoga-Rovers & Associates Ltd.

TOXIC REDUCTION POLICY STATEMENT OF INTENT

The Mondelez Canada Inc.'s Hamilton Confection Plant (Hamilton Confectionary Plant) creates Particulate Matter <10 µm (PM10) in four processes. The Facility does not intend to reduce the creation of this toxic substance at the Facility.

REDUCTION OBJECTIVES

The Hamilton Confectionary Plant produces high quality products in an environmentally responsible manner. The Hamilton Confectionary's manufacturing operation has been optimized to minimize the use of raw materials. Mondelez will strive to reduce the creation of PM10 at the Facility in the future, should an option become available.

DESCRIPTION OF FACILITY

The Mondelez Facility is a non-chocolate confectionary plant. The Facility uses a variety of flavours as raw materials which are mixed and baked in ovens before being packaged and shipped off-site to customers.

The North American Industry Classification System (NAICS) Code that applies to this Facility is 311340 – Non-Chocolate Confectionary Manufacturing.

In 2012, the Facility operated the manufacturing process 24 hours per day, 7 days per week for 50 weeks per year.

TOXIC SUBSTANCE REDUCTION OPTIONS

After looking into the seven categories of toxic substance reduction options, no options were identified. Explanations are provided in the table below to detail why an option could not be identified in each category.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
1) Materials or feedstock substitution	No option identified: Sugar and starch are essential ingredients used at the Facility which result in the creation of PM10 during loading and unloading operations at the silos. The Hamilton Confectionary uses sugar and starch in very specific amounts per batch. The substitution of these raw materials used for production would require extensive efforts from the Research & Development group. Potential substitutions of sugar and/or starch would require plant trials, testing and paneling to analyze product quality. Product characteristics such as size, colour, taste, smell and visual appeal cannot be compromised. There are no alternatives available at this time to substitute sugar and/or starch to reduce creation of PM10.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
2) Product design or reformulation	No option identified: As noted above, sugar and starch are essential ingredients whose usage play significant roles in the quality of products. Research and Development efforts would be required to re-formulate products to reduce the creation of PM10 while ensuring no loss in product quality. There are no options available to reformulate products.
3) Equipment or Process Modification	No option identified: The sugar and starch are transferred from the silos to the mixing stage by a blower. This material transfer occurs in an enclosed leg. Therefore, all sugar and starch required for production are transferred in a manner that does not give opportunity for improvement in the creation and release of PM10. The dust collectors, cooling towers and comfort heating equipment also create PM10 and cannot be modified to improve the releases from this equipment. There are no available options to modify the equipment or processes at Hamilton Confectionary to reduce the creation of PM10.
4) Spill and Leak prevention	No option identified: The Facility has experienced spills of sugar and starch in the past during loading and unloading operations. The Hamilton Confectionary recently had an upset condition in the sugar silo last month where sugar was discharged into the air caused by a pressure vent popping out. Small spills also occur during the delivery of sugar and starch in the Facility's back yard area. Spill prevention training could be implemented to improve the handling/transferring carried out by supervisors, leads and warehouse colleagues to help avoid spills. Also, the Facility could introduce spill trays or kits to act as spill containment for the silo area and prevent any uncontrolled spills in that area. These options work towards containing spilled sugar or starch at the silos, however they do not eliminate the creation of PM10 from the continual operation and required use of these products in the manufacturing process.

<i>Toxic Substance Reduction Category</i>	<i>Option: Identification and Description</i>
5) On-site reuse or recycling	No option identified: Sugar is reused in the process; it is captured from candy products and recycled back. The off-spec product that cannot possibly be re-used is shipped off-site for animal feed. All raw materials are used for production and there are no further opportunities in the production process to reuse or recycle sugar or starch.
6) Improve inventory management or purchasing techniques	No option identified: Hamilton Confectionary uses a database management system which is a daily encountering computer system to track quantities of products being received on-site and production demands. The production schedule is known for a minimum of two weeks in advance, therefore no surplus storage exists at the Facility. The Silos are kept full at all times based on a fairly constant product demand. The Facility is unable to identify a reduction option related to improved inventory management or purchasing techniques, as they are already doing everything possible in this category.
7) Training or improved operating practices	No option identified: The staff is trained to inspect and monitor process operations to ensure all process equipment is operating properly. Equipment maintenance programs and training on Standard Operating Procedures (SOPs) to ensure efficient operating practices. The Facility operates with a fairly high human interaction as approximately 70 percent of the process being monitored closely by floor workers. There is potential for the implementation of further training for the floor workers that would result in improved operational efficiency and limit off-spec products. The Facility's operational schedule is 7 days per week and 24 hours per day. Therefore, even if employee training and SOPs are improved to reduce Facility waste, the creation of PM10 will not be reduced due to the continual operation of the manufacturing process.

PLAN SUMMARY STATEMENT

This plan summary accurately reflects the content of the toxic substance reduction plan for PM2.5.

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

Attached.

CERTIFICATION BY LICENSED PLANNER

Attached.

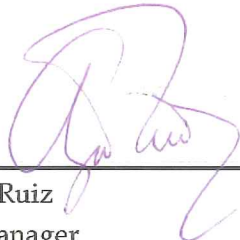
2.0 PLAN CERTIFICATION

CERTIFICATION BY HIGHEST RANKING EMPLOYEE

As of December 9th, 2013 I, Andres Ruiz, 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 *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

Particulate Matter 2.5

Particulate Matter 10



Dec 10, 2013

Andres Ruiz

Plant Manager

Mondelez Canada Inc., Hamilton Confectionary Plant

CERTIFICATION BY LICENSED PLANNER

As of December 9th, 2013, I, Kaitlin Ryan, certify that I am familiar with the processes at Mondelez Canada Inc. Hamilton Confectionary Plant 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 *Toxics Reduction Act, 2009* that are set out in the plan dated December 9th, 2013 and that the plan complies with that Act and Ontario Regulation 455/09 (General) made under that Act.

Particulate Matter 2.5

Particulate Matter 10



Dec 16, 2013.

Kaitlin Ryan

Licensed Toxic Reduction Planner, License # TSRP0009

Conestoga-Rovers & Associates Ltd.