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Honda of Canada Toxic Substance Reduction Plan Summary

Facility Information	
Facility NPRI ID number	397
O. Reg. 127/01 ID number	6172
Legal name of facility	Honda of Canada Mfg.
Address of facility	4700 Industrial Parkway, Alliston, Ontario
Mailing address of facility	P.O. Box 5000, Alliston, Ontario L9R 1A2
Full-time employees	4200
NAICS code for facility	336110
Facility public contact	Ian MacRae, Environmental Group Leader, (705) 435-5561
Facility UTM coordinates	44.1470, -79.8470

Plan Information - Pretreat chemicals

Substance	CAS RN	Description of Use/Creation
Zinc	N/A	Approximately 98% of the zinc used at the facility is an anti-corrosion coating in the steel used to manufacture the vehicle body. The steel specification is a global corporate standard developed to ensure product quality and consumer safety and is outside the facility control. Zinc is also a component of several chemicals used to prepare the vehicle body for painting. Zinc is not created at the facility.
Hydrochloric acid	7647-01-0	Hydrochloric acid is used in the water conditioning system in a paint shop. It is also a component of a product used to descale the paint pretreat system. This substance is not created at the facility.
Nitrate ion	N/A	Nitrate ions are introduced into the pretreat process when nitric acid used for cleaning is neutralized. Other sources include nickel nitrate and sodium nitrite used in pretreatment chemicals.
Nitric acid	7697-37-2	Nitric acid is used primarily to clean the phosphate tanks during plant maintenance events.
Total Phosphorus	N/A	Phosphorus is used as a surface treatment in the preparation of the vehicle body for painting. The phosphorus coating prevents corrosion of the vehicle body during use.
Sodium nitrite	7632-00-0	Sodium nitrite is one component of the phosphate process. Its purpose is to accelerate the reaction and prevent corrosion of the body in the bath.

Statement of Intent (Pretreat Chemicals)	**In accordance with s. 4(1)6 of the Toxics Reduction Act, the facility does not intend to implement any options within the scope of the Act because and no other options meet the technical or economic evaluation criteria at this time.**

Additional Information - Pretreat

The facility achieved ISO 14001 certification of its Environmental Management System in 1998. The pretreat processes are monitored to ensure optimal chemical use. The use of Nitric Acid has been reduced by approximately 40% over the past 7 years through process optimization. The formulation of some pretreat materials have been changed resulting in phosphate reductions. The facility also has programs and procedures in place to prevent spills and leaks and ensure ongoing operator training.

Plan Information - Volitile Organic Compounds (VOC)

Substance	CAS RN	Description of Use/Creation
Formaldehyde	50-00-0	The primary source of formaldehyde is in automotive paints, typically <0.5% by weight. Formaldehyde is also created as a by-product of the sand moulding process in the engine manufacturing operation.
Methanol	67-56-1	More than 80% of the methanol used in the facility is used as a component of windshield washer fluid to test the washer fluid delivery system, a critical safety function. Methanol is also a component of solvent-borne paints and paint line purge. Methanol is not created at the facility.
Isopropyl alcohol	67-63-0	The largest use of isopropanol is for wiping vehicles and parts prior to painting. Isopropanol is also a component of both solvent and water borne paints. Isopropyl alcohol is not created at the facility.
Acetone	67-64-1	The most significant use of acetone is in a cleaning product used for cleaning paint lines. It was also a component of solvent borne paints, mostly in concentrations less than 1%. A small amount was introduced to the painting process in a wiping product used in paint repair. Acetone is not created at the facility.
N-butyl alcohol	71-36-3	n-Butanol enters the process primarily as a component of solvent borne paint. It is also present in some waterborne basecoat. It is not created at the facility.
Isobutyl alcohol	78-83-1	Isobutanol enters the process as a component of solvent borne paints in all three paint departments and is not created at the facility.
Methyl ethyl ketone	78-93-3	Methyl ethyl ketone enters the process as a component of solvent borne paint in all three paint departments. The largest contribution is from bumper line purge solvent. It is not created at the facility.
1,2,4 trimethyl benzene	95-63-6	The primary use of 1,2,4 trimethyl benzene is in solvent borne automotive paints. It is also found in a paint line cleaning product and a cleaner used to remove paint from the walls and windows of paint booths. It is not created at the facility.
Ethylbenzene	100-41-4	Ethylbenzene is a component of solvent-borne paints and paint line purge. Ethylbenzene is not created at the facility.
Methyl Isobutyl Ketone	108-10-1	MIBK enters the process in solvent borne paint products and in an e-coat component. It is not created at the facility.
Propylene glycol monomethyl ether acetate	108-65-6	Propylene glycol monomethyl ether acetate is a component of solvent borne paints. Small quantities enter the process in products used to clean paint lines. It is not created at the facility.
1,3,5 Trimethyl benzene	108-67-8	The primary use of 1,3,5 trimethyl benzene is in sovent borne automotive paints. It is also found in a cleaner used to remove paint from the walls and windows of paint booths. It is not created at the facility.
Toluene	108-88-3	Toluene is a component of solvent-borne paints. Toluene is not created at the facility.
2-butoxy ethanol	111-76-2	The largest consumption of 2-butoxy ethanol is as a component of one e-coat. It is also the primary component of purge for waterborne paint lines. It is also found in paint and in a coating applied to the wheel wells of the painted vehicles for protection. 2-butoxy ethanol is created as a by-product of the e-coat curing process.
Ethylene glycol butyl ether acetate	112-07-2	EGBEA enters the process as a component of solvent borne paints, primarily bodyline surfacer and reducer. It is not created at the facility.
Carbitol Acetate	112-15-2	Carbitol acetate is a component of solvent-borne paints, primarily as an additive to the paint which affects the wetting properties of the paint. It is not created at the facility.
Ethylene glycol monohexyl ether	112-25-4	Ethylene glycol monohexyl ether enters the process in an e-coat bath. It is also present in a chip primer and in waterborne basecoats. Ethylene glycol monohexyl ether is created as a by-product of the e-coat curing process.

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Substance	CAS RN	Description of Use/Creation
Diethylene glycol monobutyl ether	112-34-5	Diethylene glycol monobutyl ether is created in the e-coat oven as a by-product of the curing process. A small amount enters the product in products used to clean process equipment.
n-Butyl acetate	123-86-4	n-Butyl acetate is a common solvent in waterborne paints. It is widely used as an alternative to solvents that are designated as hazardous air pollutants in the U.S. It is not created at the facility.
Ethyl acetate	141-78-6	Ethyl acetate enters the process in the final assembly departments in glass and body primers for window install, and in the three paint departments as a component of solvent borne paint and reducers. The largest single source is bodyline purge solvent.
N-heptane	142-82-5	N-heptane is a component of solvent-borne paint. It is not created at the facility.
Xylene	1330-20-7	Xylene is a component of solvent-borne paints and paint line purge. Xylene is not created at the facility.
N-butoxy propanol	5131-66-8	N-butoxy propanol is used in both solvent and waterborne paints. It is also a minor component of an e-coat component. It is not created at the facility.
VM&P Naphtha	8032-32-4	VM&P naphtha is a component of some solvent borne paints. VM&P naphtha is not created at the facility.
Aliphatic petroleum distillates	8052-41-3	Aliphatic petroleum distillates are a component of waxes used to protect specific parts of the vehicle from corrosion. It is also a minor component of solvent borne paints. It is not created at the facility.
N-methyl-2-pyrrolidone	872-50-4	The primary source of this substance is in a cleaner used to strip paint from the delivery lines when a paint colour is discontinued or changed. Its consumption depends on the number of new paint colours being introduced in a specific year.
Isoparaffins	64742-47-8	The primary sources of isoparaffins are underbody coatings applied in the paint departments for corrosion protection and noise reduction, and waxes applied in paint and final assembly for protective reasons. Isoparaffins are also components of solvent borne paints and waterborne bumper primer and are not created at the facility.
Hydrotreated heavy naphtha	64742-48-9	Hydrotreated heavy naphtha enters the process in waxes in paint and assembly, in a lubricant used in final assembly, and in solvent borne paints. It is also in a cleaning product used by the on-site industrial cleaner. It is not created at the facility.
Medium mineral spirits	64742-88-7	Medium mineral spirits is a component of some solvent borne paints and is not created at the facility.
Light aliphatic naphtha	64742-89-8	Solvent naphtha light aliphatic is a component of solvent borne paints. A small amount enters the process in a grease remover. It is not created at the facility.
Heavy aromatic solvent naphtha	64742-94-5	Heavy aromatic solvent naphtha is part of the solvent package for many solvent borne paints. It is not created at the facility.
Light aromatic solvent naphtha	64742-95-6	Light aromatic solvent naphtha is a common component of the solvent package of automotive paints, including water borne paints. It also enters the paint process in a line cleaner and in wipes. It is not created at the facility.

Statement of Intent (VOC's)	**In accordance with s. 4(1)6 of the Toxics Reduction Act, the facility does not intend to implement any options within the scope of the Act because reductions in the use or creation of these substances is expected to be achieved as a result of the facility's ongoing effort to reduce Volatile Organic Compound (VOC) emissions.**

Additional Information - VOC's

The facility achieved ISO 14001 certification of its Environmental Management System in 1998. Volatile organic compounds were identified as a significant environmental aspect. The facility sets annual targets for reduction of VOC emissions through activities such as equipment replacement, process modification, and paint line purge management. The facility VOC emissions have been reduced by 13% on a per vehicle basis over the past ten years. New equipment installations over the next three years will further reduce VOC's. The facility also has programs and procedures in place to prevent spills and leaks and ensure ongoing operator training. The facility has investigated substitutions for the listed VOC's, but alternatives are either listed chemicals or are not economically feasible. Where possible, water-borne paint technology is used.

Plan Information - Critical Air Contaminants (CAC's)

Substance	CAS RN	Description of Use/Creation
Nitrogen Oxides	11104-93-1	Nitrogen oxides are a by-product of combustion of fuels, for this facility primarily natural gas. Natural gas is used for comfort heating and also for processes such as conditioning of outside air for the vehicle and bumper painting processes, and also for the paint ovens and die casting furnaces.
Carbon monoxide	630-08-0	Carbon monoxide is a by-product of combustion of fuels, for this facility primarily natural gas. Natural gas is used for comfort heating and also for processes such as conditioning of outside air for the vehicle and bumper painting processes, and also for the paint ovens and die casting furnaces.
Particulate Matter <= 10 microns (PM10)	N/A	The primary source of PM10 is automotive painting. The spray painting process involves atomizing paint which either contacts the vehicle body, bumper or instrument panel, or is carried into the underbooth where most of it is captured. The PM10 is considered to be destroyed when it is baked in the paint oven or when the overspray is captured in the underbooth. PM10 is also a by-product of combustion of fuels; for this facility primarily natural gas. Natural gas is used for comfort heating and also for processes such as conditioning of outside air for the vehicle and bumper painting processes, and also for the paint ovens and die casting furnaces. PM10 is also created as a by-product of diesel fuel combustion for the emergency generator and fire pump operation, through the operation of cooling towers, and as an emission from spot welding the vehicle body. Fumes from welding, sand core moulding and cooling towers contribute a very small amount to PM10 created.
Particulate Matter <= 2.5 microns (PM2.5)	N/A	The primary source of PM2.5 is automotive painting. The spray painting process involves atomizing paint which either contacts the vehicle body, bumper or instrument panel, or is carried into the underbooth where most of it is captured. PM2.5 is also a by-product of combustion of fuels, for this facility primarily natural gas. Natural gas is used for comfort heating and also for processes such as conditioning of outside air for the vehicle and bumper painting processes, and also for the paint ovens and die casting furnaces. PM2.5 is also created as a by-product of diesel fuel combustion for the emergency generator and fire pump operation and as an emission from spot welding the vehicle body.

Statement of Intent (CAC's)	**In accordance with s. 4(1)6 of the Toxics Reduction Act, the facility does not intend to implement any options because reductions in the use or creation of this substance are expected to be achieved as a result of the facility's energy reduction program for the 2014 to 2016 fiscal years.**

Additional Information - CAC's

As part of the company's ongoing ISO 14001 certification, energy consumption was identified as a significant environmental aspect. The facility sets annual targets for reduction of greenhouse gases through activities such as equipment replacement and process modification. The facility has reduced natural gas consumption by 17% over the past ten years. The facility continues to upgrade equipment and processes, reducing PM2.5 and PM10 from painting and energy consumption, such as new spray technology, spray booth design and variable frequency drives. Associates are engaged in energy conservation initiatives throughout the facility.

Plan Information - Other Misc.

Substance	CAS RN	Description of Use/Creation
Ethylene Glycol	107-21-1	Ethylene glycol is the primary component of engine coolant in the vehicle. This represents >99.4% of consumption. Ethylene glycol is also a component of an e-coat component.

Statement of Intent (ethylene glycol)	**In accordance with s. 4(1)6 of the Toxics Reduction Act, the facility does not intend to implement any options because the options identified have already been implemented, are not economically feasible, or would produce negligible reduction in use.**

Substance	CAS RN	Description of Use/Creation
Bis (2-ethylhexyl) adipate	103-21-1	Bis (2-ethyl hexyl) adipate was a component of an acoustic underbody coating applied in a paint department.

Statement of Intent (adipate)	**The product containing the substance was eliminated from the process in 2013.**

Summary Statement: The plan summary accurately reflects the plans for the substances listed above.

Planner(s) Who Provided Recommendations and Certification of Plans: TSRP0164 & TSRP0279

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Honda of Canada Toxic Substance
Reduction Plan Summary

eg 455/09 Listed Substance Reduction Plan for Honda of Canada Mfg.

Certification of Plan (S. 19)

As of December 16, 2015, I, Dan Smith, certify that I have read the toxic substance reduction plans for the toxic substances referred to below and am familiar with their contents, and to my knowledge the plans are factually accurate and comply with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under the Act.

CAS#	Substance	Plan Date		CAS #	Substance	Plan Date
50-00-0	Formaldehyde	Dec. 2014		142-82-5	n-heptane	Dec. 2013
67-56-1	methanol	Dec. 2012		630-08-0	carbon monoxide	Dec. 2013
67-63-0	isopropyl alcohol	Dec. 2013		1330-20-7	xylene	Dec. 2012
67-64-1	acetone	Dec. 2013		5131-66-8	n-butoxy propanol	Dec. 2013
71-36-3	n-butyl alcohol	Dec. 2013		7632-00-0	sodium nitrite	Dec. 2013
78-83-1	isobutyl alcohol	Dec. 2013		7647-01-0	hydrochloric acid	Dec. 2012
78-93-3	methyl ethyl ketone	Dec. 2013		7697-37-2	nitric acid	Dec. 2013
95-63-6	1,2,4 trimethyl benzene	Dec. 2013		8032-32-4	vm&p naphtha	Dec. 2013
100-41-4	ethylbenzene	Dec. 2012		8052-41-3	aliphatic petroleum distillates	Dec. 2013
103-21-1	bis (2-ethylhexyl) adipate	Dec. 2013		64742-47-8	isoparaffins	Dec. 2013
107-21-1	ethylene glycol	Dec. 2013		64742-48-9	hydrotreated heavy naphtha	Dec. 2013
108-10-1	methyl isobutyl ketone	Dec. 2013		64742-88-7	medium mineral spirits	Dec. 2013
108-65-6	propylene glycol monomethyl ether acetate	Dec. 2013		64742-89-8	light aliphatic naphtha	Dec. 2013
108-67-8	1,3,5 trimethyl benzene	Dec. 2013		64742-94-5	Heavy aromatic solvent naphtha	Dec. 2013
108-88-3	toluene	Dec. 2012		64742-95-6	Light aromatic solvent naphtha	Dec. 2013
111-76-2	butyl cellosolve	Dec. 2013		11104-93-1	nitrogen oxides (expressed as NO2)	Dec. 2013
112-07-2	ethylene glycol butyl ether acetate	Dec. 2013		NA-M09	particulate matter <= 10 microns	Dec. 2013
112-15-2	carbitol acetate	Dec. 2013		NA-M10	particulate matter <= 2.5 microns	Dec. 2013
112-25-4	ethylene glycol monohexyl ether	Dec. 2013		NA-M14	zinc	Dec. 2012
112-34-5	diethylene glycol monobutyl ether	Dec. 2013		NA-M17	nitrate ion	Dec. 2013
123-86-4	n-butyl acetate	Dec. 2013		NA-M22	total phosphorus	Dec. 2013
141-78-6	ethyl acetate	Dec. 2013		872-50-4	n-methyl-2-pyrrolidone	May 2015

Signed 12/16/2015

President, Honda of Canada Mfg.

Reg 455/09 Listed Substance Reduction Plan for Honda of Canada Mfg.

Certification of Plan (S. 19)

As of December 16, 2015, I, Maureen Ramsay and I, Craig Stewart certify that we are familiar with the processes at Honda of Canada Mfg., that use or create the toxic substances 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 toxic substance reduction plans referred to below for the toxic substances and that the plans comply with that Act and Ontario regulation 455/09 (General) made under that Act.

CAS#	Substance	Plan Date		CAS #	Substance	Plan Date
50-00-0	Formaldehyde	Dec. 2014		142-82-5	n-heptane	Dec. 2013
67-56-1	methanol	Dec. 2012		630-08-0	carbon monoxide	Dec. 2013
67-63-0	isopropyl alcohol	Dec. 2013		1330-20-7	xylene	Dec. 2012
67-64-1	acetone	Dec. 2013		5131-66-8	n-butoxy propanol	Dec. 2013
71-36-3	n-butyl alcohol	Dec. 2013		7632-00-0	sodium nitrite	Dec. 2013
78-83-1	isobutyl alcohol	Dec. 2013		7647-01-0	hydrochloric acid	Dec. 2012
78-93-3	methyl ethyl ketone	Dec. 2013		7697-37-2	nitric acid	Dec. 2013
95-63-6	1,2,4 trimethyl benzene	Dec. 2013		8032-32-4	vm&p naphtha	Dec. 2013
100-41-4	ethylbenzene	Dec. 2012		8052-41-3	aliphatic petroleum distillates	Dec. 2013
103-21-1	bis (2-ethylhexyl) adipate	Dec. 2013		64742-47-8	isoparaffins	Dec. 2013
107-21-1	ethylene glycol	Dec. 2013		64742-48-9	hydrotreated heavy naphtha	Dec. 2013
108-10-1	methyl isobutyl ketone	Dec. 2013		64742-88-7	medium mineral spirits	Dec. 2013
108-65-6	propylene glycol monomethyl ether acetate	Dec. 2013		64742-89-8	light aliphatic naphtha	Dec. 2013
108-67-8	1,3,5 trimethyl benzene	Dec. 2013		64742-94-5	Heavy aromatic solvent naphtha	Dec. 2013
108-88-3	toluene	Dec. 2012		64742-95-6	Light aromatic solvent naphtha	Dec. 2013
111-76-2	butyl cellosolve	Dec. 2013		11104-93-1	nitrogen oxides (expressed as NO2)	Dec. 2013
112-07-2	ethylene glycol butyl ether acetate	Dec. 2013		NA-M09	particulate matter <= 10 microns	Dec. 2013
112-15-2	carbitol acetate	Dec. 2013		NA-M10	particulate matter <= 2.5 microns	Dec. 2013
112-25-4	ethylene glycol monohexyl ether	Dec. 2013		NA-M14	zinc	Dec. 2012
112-34-5	diethylene glycol monobutyl ether	Dec. 2013		NA-M17	nitrate ion	Dec. 2013
123-86-4	n-butyl acetate	Dec. 2013		NA-M22	total phosphorus	Dec. 2013
141-78-6	ethyl acetate	Dec. 2013		872-50-4	n-methyl-2-pyrrolidone	May 2015

Signed Maureen Ramsay
TSRP0164

TSRP0279