



Summary Letter as required under Toxics Reduction Act and Ontario Regulation 455/09

Nemak of Canada – Windsor Aluminum Plant

NPRI ID: 4416

4600 G.N. Booth Drive
Windsor, ON N9C 4G8 Canada

Number of employees: 323

Contact Information

Brad Boutros

Position: Plant Manager

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Geographical Coordinates

Latitude: 42.27610

Longitude: -83.08510

Datum: 1983

Standard Industrial Classifications

- **NAICS 2 Code:** 31-33 - Manufacturing
- **NAICS 4 Code:** 3315 - Foundries
- **NAICS 6 Code:** 331529 – Non-Ferrous Foundries (except Die-Casting)



2017 Substance Information (tonnes)

Substance Name	CAS Number	Amount Entering Process	Amount Created	Amount Released to Air	Amount Disposed	Amount Recycled	Amount Contained in Product
Phenol	108-95-2	10 to 100	0	0.693	0.116	0	0
Aluminum (Fume or Dust)	7429-90-5	0	10 to 100	0.096	37.04	0	0
Copper	7440-50-8	100 to 1,000	0	0.094	0.106	44.40	100 to 1000
Lead (in kg)	7439-92-1	10,000 to 100,000	0	2.47	3.80	1,583	100 to 1,000
Methylenebis (phenol isocyanate) (MDI)	101-68-8	100 to 1,000	0	0.039	0.891	0	0
Polymeric diphenylmethane diisocyanate (PMDI)	9016-87-9	100 to 1,000	0	0.0026	0.891	0	0
Sulphuric Acid	7664-93-9	10 to 100	N/A	N/A	N/A	N/A	N/A
Ammonia	NA-16	N/A	1 to 10	N/A	4.09	N/A	N/A
Oxides of Nitrogen	11104-93-1	N/A	10 to 100	20.45	N/A	N/A	N/A
PM	NA-M08	N/A	10 to 100	24.20	N/A	N/A	N/A
PM ₁₀	NA-M09	N/A	10 to 100	24.20	N/A	N/A	N/A
PM _{2.5}	NA-M10	N/A	10 to 100	24.20	N/A	N/A	N/A
VOCs	NA-M16	100 to 1,000	N/A	13.23	N/A	N/A	N/A
Heavy Alkylate Naphtha	64741-65-7	1 to 10	N/A	1.04	N/A	N/A	N/A
Heavy Aromatic Solvent Naphtha	64742-94-5	100 to 1,000	N/A	10.84	N/A	N/A	N/A
Carbon Monoxide	630-08-0	N/A	10 to 100	17.13	N/A	N/A	N/A

For comparison purposes, the following table provides a summary of the 2016 and 2017 TRA Accounting values.



Comparison of 2016 to 2017 Reportable TRA Substances (tonnes)

Substance Name	Year	Amount Entering Process	Amount Created	Amount Released to Air	Amount Off-Site Disposal	Amount Off-Site Recycling	Amount Contained in Product
Phenol 108-95-2	2016	10 to 100	0	0.834	0.036	0	0
	2017	10 to 100	0	0.693	0.116	0	0
	Change in % and Tonnes	Decrease of 16.9% or 2.914 tonnes	N/A	Decrease of 16.9% or 0.141 tonnes	Increase of 222.8% or 0.080 tonnes	N/A	N/A
	Rationale	Decreased production	N/A	Decreased production	Increased amount transferred off site	N/A	N/A
	Reduction option to reduce phenol on specific operations has not been implemented as those operations have all been off line since the creation of the reduction plan.						
Aluminum (Fume or Dust) 7429-90-5	2016	0	10 to 100	0.088	56.11	0	0
	2017	0	10 to 100	0.096	37.04	0	0
	Change in % and Tonnes	N/A	Decrease of 19.06% or 37.14 tonnes	Increase of 9.8% or 0.009 tonnes	Decrease of 34% or 19.1 tonnes	N/A	N/A
	Rationale	N/A	Decreased production	Increased hours of operation for shot blast machine	Decreased production	N/A	N/A
	Continued to maintain the reduced in-house aluminum inventory from 35 days to 13.8 days. Decreased production resulted in a decrease in the quantity created.						
Copper 7440-50-8	2016	100 to 1,000	0	0.100	0.251	31.26	100 to 1,000
	2017	100 to 1,000	0	0.094	0.106	44.40	100to 1000
	Change in % and Tonnes	Decrease of 20% or 73.96 tonnes	N/A	Decrease of 6.4% or 0.006 tonnes	Decrease of 57.9% or 0.145 tonnes	Increase of 42.0% or 13.14 tonnes	Decrease of 25.9% or 86.95 tonnes
	Rationale	Decreased production	N/A	Decreased production	Decrease in dust collector fines disposed	Increased amount transferred off site	Decreased production
	Reduced the content of copper to 2.8% in the incoming raw material (target is 2.8%). Additionally, continued to maintain the increased the in-house re-use of the material (rather than shipping for recycling), and reduced in-house aluminum inventory from 35 days to 13.8 days.						
Lead (and its compounds) NA-08 (kg)	2016	10,000 to 100,000	0	2.85	9.0	1,117	10,000 to 100,000
	2017	10,000 to 100,000	0	2.47	3.80	1,583	100 to 1,000
	Change in % and Tonnes	Decrease of 20.2% or 2,641 kg	N/A	Decrease of 13.2% or 0.4 kg	Decrease of 57.8% or 5.2 kg	Increase of 41.7% or 466 kg	Decrease of 25.9% or 3,102 kg
	Rationale	Decreased production	N/A	Decreased production	Decrease in dust collector fines disposed	Increased amount transferred off site	Decreased production
	Continued to maintain the increased the in-house re-use of the material (rather than shipping for recycling) and reduced in-house aluminum inventory from 35 days to 13.8 days.						



Substance Name	Year	Amount Entering Process	Amount Created	Amount Released to Air	Amount Off-Site Disposal	Amount Off-Site Recycling	Amount Contained in Product
Sulphuric Acid 7664-93-9	2016	10 to 100	0	0	0	0	0
	2017	10 to 100	0	0	0	0	0
	Change in % and Tonnes	Decrease of 37.7% or 11.82 tonnes	N/A	N/A	N/A	N/A	N/A
	Rationale	Decrease in product usage	N/A	N/A	N/A	N/A	N/A
	No plans to reduce the use of Sulphuric Acid.						
Ammonia NA-16	2016	0	1 to 10	0	4.45	0	0
	2017	0	1 to 10	0	4.09	0	0
	Change in % and Tonnes	N/A	Decrease of 8.1% or 0.36 tonnes	N/A	Decrease of 8.1% or 0.36 tonnes	N/A	N/A
	Rationale	N/A	Decreased production	N/A	Decreased production	N/A	N/A
	No plans to reduce the creation of Ammonia.						
Methylenebis (Phenol Isocyanate) (MDI) 101-68-8	2016	100 to 1,000	0	0.047	0.035	0	0
	2017	100 to 1,000	0	0.039	0.891	0	0
	Change in % and Tonnes	Decrease of 17.1% or 26.03 tonnes	N/A	Decrease of 17% or 0.008 tonnes	Increase of 2431% or 0.856 tonnes	N/A	N/A
	Rationale	Decreased production	N/A	Decreased production	Increased amount transferred off site	N/A	N/A
	No plans to reduce the use of MDI.						
Polymeric diphenylmethane diisocyanate (PMDI) 9016-87-9	2016	100 to 1,000	0	0.0032	0.035	0	0
	2017	100 to 1,000	0	0.0026	0.891	0	0
	Change in % and Tonnes	Decrease of 17.1% or 26.03 tonnes	N/A	Decrease of 16.8% or 0.0005 tonnes	Increase of 2431% or 0.856 tonnes	N/A	N/A
	Rationale	Decreased production	N/A	Decreased production	Increased amount transferred off site	N/A	N/A
	No plans to reduce the use of PMDI.						



Substance Name	Year	Amount Entering Process	Amount Created	Amount Released to Air	Amount Off-Site Disposal	Amount Off-Site Recycling	Amount Contained in Product
Oxides of Nitrogen 11104-93-1	2016	0	10 to 100	24.83	0	0	0
	2017	0	10 to 100	20.45	0	0	0
	Change in % and Tonnes	N/A	Decrease of 17.6% or 4.37 tonnes	Decrease of 17.6% or 4.37 tonnes	N/A	N/A	N/A
	Rationale	N/A	Decreased production	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of Oxides of Nitrogen.						
PM NA-M08	2016	0	10 to 100	27.16	0	0	0
	2017	0	10 to 100	20.45	0	0	0
	Change in % and Tonnes	N/A	Decrease of 10.9% or 2.96 tonnes	Decrease of 10.9% or 2.96 tonnes	N/A	N/A	N/A
	Rationale	N/A	Decreased production	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of PM						
PM₁₀ NA-M09	2016	0	10 to 100	26.5	0	0	0
	2017	0	10 to 100	24.2	0	0	0
	Change in % and Tonnes	N/A	Decrease of 8.7% or 2.31 tonnes	Decrease of 8.7% or 2.32 tonnes	N/A	N/A	N/A
	Rationale	N/A	Decreased production	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of PM ₁₀						
PM_{2.5} NA-M10	2016	0	10 to 100	26.03	0	0	0
	2017	0	10 to 100	24.20	0	0	0
	Change in % and Tonnes	N/A	Decrease of 7% or 1.83 tonnes	Increase of 7% or 1.83 tonnes	N/A	N/A	N/A
	Rationale	N/A	Decreased production	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of PM _{2.5}						



Substance Name	Year	Amount Entering Process	Amount Created	Amount Released to Air	Amount Off-Site Disposal	Amount Off-Site Recycling	Amount Contained in Product
Heavy alkylate naphtha 64741-65-7	2016	10 to 100	0	1.29	0	0	0
	2017	10 to 100	0	1.04	0	0	0
	Change in % and Tonnes	Decrease of 20% or 0.259 tonnes	N/A	Decrease of 20% or 0.259 tonnes	N/A	N/A	N/A
	Rationale	Decreased production	N/A	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of Heavy alkylate naphtha						
Heavy aromatic solvent naphtha 64742-94-5	2016	10 to 100	0	14.76	0	0	0
	2017	10 to 100	0	10.84	0	0	0
	Change in % and Tonnes	Decrease of 17% or 35.43 tonnes	N/A	Decrease of 17% or 2.216 tonnes	N/A	N/A	N/A
	Rationale	Decreased production	N/A	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of Heavy aromatic solvent naphtha						
Carbon Monoxide 630-08-0	2016	0	10 to 100	20.82	0	0	0
	2017	0	10 to 100	17.13	0	0	0
	Change in % and Tonnes	N/A	Decrease of 17.7% or 3.68 tonnes	Decrease of 17.7% or 3.68 tonnes	N/A	N/A	N/A
	Rationale	N/A	Decreased production	Decreased production	N/A	N/A	N/A
	No plans to reduce the creation of Carbon Monoxide.						



Certification

As of May 28, 2018, I, Brad Boutros, certify that I have read the report on the toxic substance reduction plan for the toxic substances referred to above and am familiar with its contents, and to my knowledge the information contained in the report is factually accurate and the report complies with the *Toxics Reduction Act, 2009* and Ontario Regulation 455/09 (General) made under that Act.

Signed May 28, 2018. Original signature is on file at the facility.

Brad Boutros, Plant Manager
Nemak Windsor Aluminum Plant