

Niagara CAER Group

Community Awareness – Emergency Response

Chemical Companies

Emissions Report

(NERM)

2020 Report for 2019 Emissions

Niagara CAER Group Chemical Companies

2020 Emissions Report

(For 2019)

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Introduction

- Issued annually by the Niagara CAER Group Chemical Companies.
- A commitment to being open with the public.
- This is the twenty seventh year of publication.
- Production levels decreased slightly in 2019 about 6% from 2018 levels
- Member companies strive to reduce chemical emissions and chemical waste.
- Results are presented as charts and tables.

Summary of Report

- 2019 Chemical emissions decreased approximately 50% from previous year.
- Chemical emissions Per Kg. of production had a substantial drop in 2019.
- Combustion emission levels per kilogram of production were higher from previous year as a result of production of electricity in a gas fired generator.
- Waste generation has decreased from previous year.

**NIAGARA CAER
Member Companies**

Chemtrade Logistics Inc.

Solvay/Cytec Canada Inc.

Durez Canada Company Ltd.

Kemira Chemicals Canada Inc.

Mancuso Chemicals Limited

Oxy Vinyls Canada Co.

Member Companies Contact Names

Company	Contact Name and Number	
Chemtrade Logistics Inc.	Sam Chandrartne	708 998-2225
	Joe Iuliano	905-354-3233
Solvay Canada Inc. (Formerly Cytec)	Michael Manning	1 973 357-3102
	Manuela Racki	289 968-0733
Durez Canada Company Ltd.	Robert Hunt	905 346-8615
	Tim Kloetstra	905 346-8634
Kemira Chemicals Canada Inc.	Oksana Shaw	905-688-6470
	Megan Bonaldo	905-688-6470
Mancuso Chemicals Ltd.	Tom Metcalf	905-357-3626
	Bob Montgomery	905-357-3626
Oxy Vinyls Canada Co.	Ed Lutz	905-374-5670
	Jane Perz	905-374-5629

Chemicals Manufactured and Uses

- **Solvay/Cytec: Phosphine, Fumigants, Mineral Extractants, Speciality Phosphine Chemicals**
Electronics Industry, Metal Recovery, Mining industry, Fumigation, Biocides
- **Durez: Phenolic Resins and Compounds,**
Automotive, Brake pistons, Clutch Facings, Electrical Applications.
- **Chemtrade Logistics: Distributes Sulphur Products, Sulphur Dioxide and Molten Sulphur.**
Pulp and paper, Electronics, mines and cyanide destruction.
- **Oxy Vinyls: PVC Resins**
Construction: Pipe & fittings, House Siding, Window Frames, Floors, Wallpaper, Fencing, roof and pool membranes. Packaging, Medical Tubing, Wire and Cable, Automotive dashes, bumpers and trim.
- **Kemira: Defoamers, Dyes and specialty Chemicals.**
Water treatment and allied processes in pulp and paper production; oil & mining processes, and paint formulation.
- **Mancuso: Phenolic, Furan and Alkyd Resins, Aryl Sulfonic Acids,**
Binder systems for foundries and Alkyds for Industrial Coatings.

NIAGARA CAER GROUP
2019 COMPOSITE PROFILE
For 2020 NERM Report

		2019	2018
Number of Employees		404	416
Payroll (Including Benefits)	\$	48,203,155	44,098,720
Taxes	\$	1,433,452	1,313,564
Utilities	\$	8,157,101	9,766,704
Value of Supplies and Services	\$	17,737,250	27,887,669
Value of Sales	\$	618,989,856	629,402,590
Percent of Products Exported	%	75.5	77
Production Levels,	kg	324,022,687	343,598,706
2020 Production Estimate,	kg	342,355,437	
Charity Support (United Way etc.)	\$	55,684	57,900

Explanations

Chemical Emissions

- Chemical emissions for 2019 decreased by over 50% from 2018 levels
- Production levels were down by 6% from 2018.
- 2019 emission levels decreased by 50% despite only 6% lower production levels. Some chemical emissions were reduced while others increased due to product mix and calculations and formulas for the NPRI report.

Chemical Wastes

- Chemical wastes to landfill and incineration decreased by 32% from 2018 levels.
- There is more emphasis put on recycle and treatment of waste.
- Chemical wastes per kg of production decreased substantially from the previous year despite only slightly lower production levels.
- Chemical wastes are sometimes accumulated over time and sent for treatment.
- Plants are doing a great job in controlling waste to landfill, water and incineration.
- The majority of wastes are recycled/treated waste. Over one million kilograms were recycled or treated.

Combustion Emissions

- Greenhouse gases were higher than 2018 levels
- Combustion emissions are tied directly to production levels and heating requirements.
- Combustion levels are variable due to weather conditions.
- Much of the increase in combustion emissions was a result of electrical power produced in a gas fired turbo generator.

**Chart No. 1
Chemical Emissions**

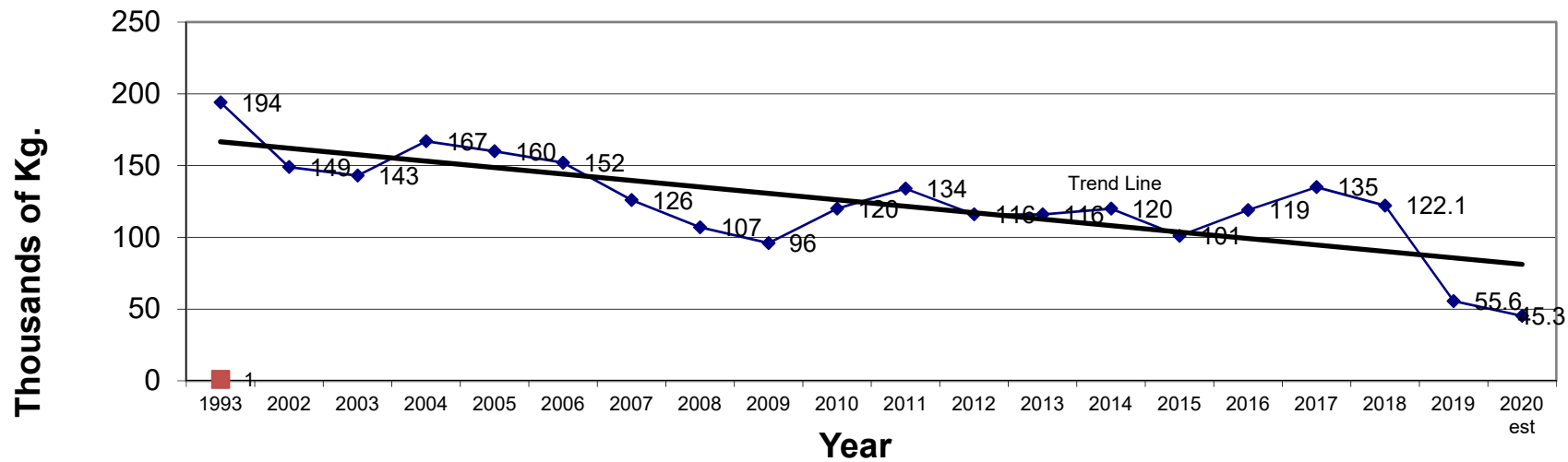
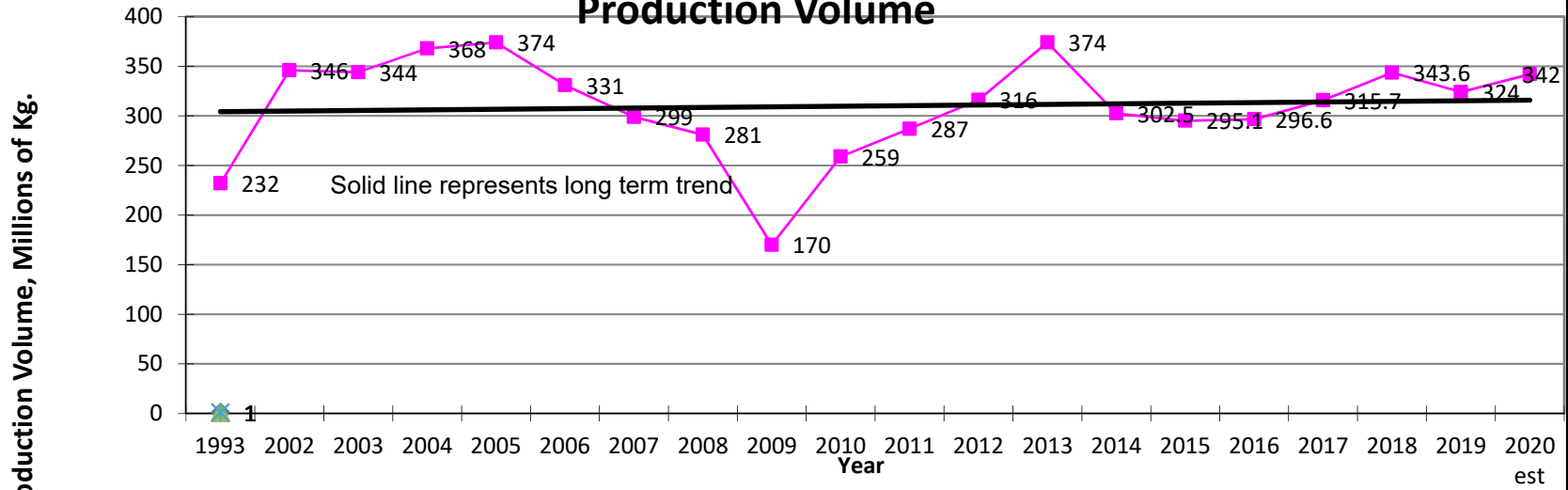


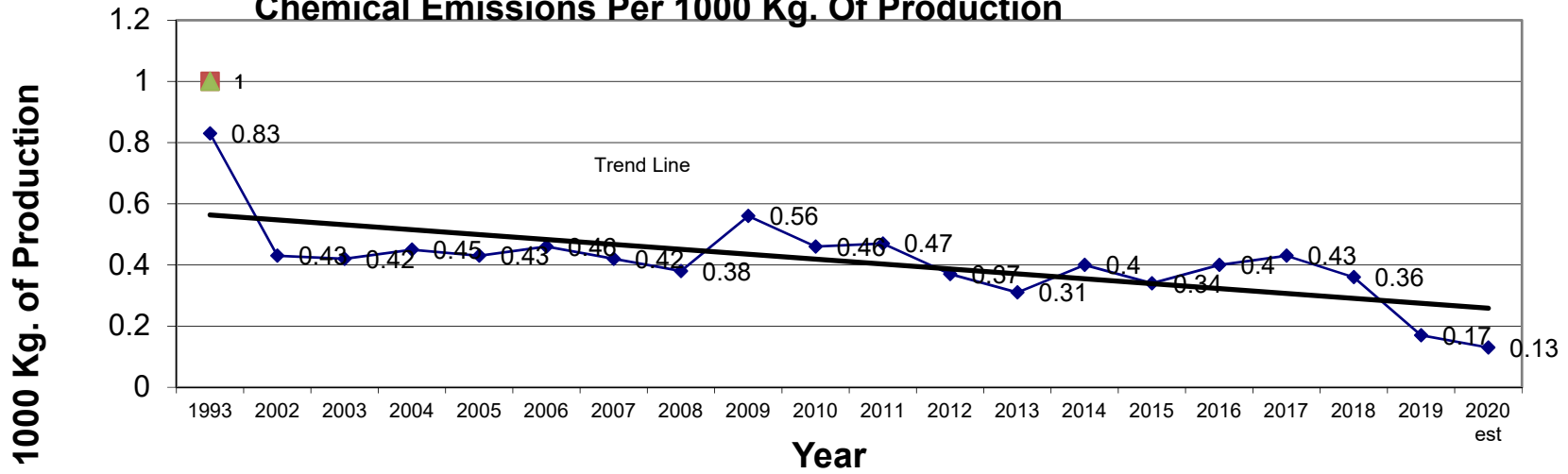
Chart No.2 Production Volume



Production level was about 6% lower from previous year

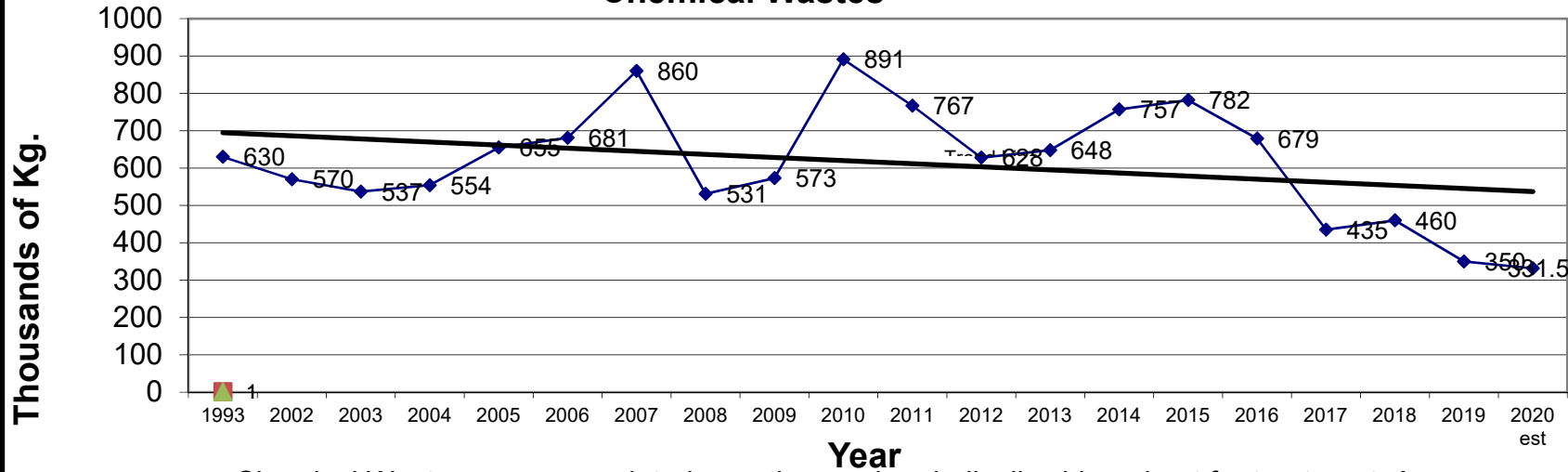
Chart No. 3

Chemical Emissions Per 1000 Kg. Of Production



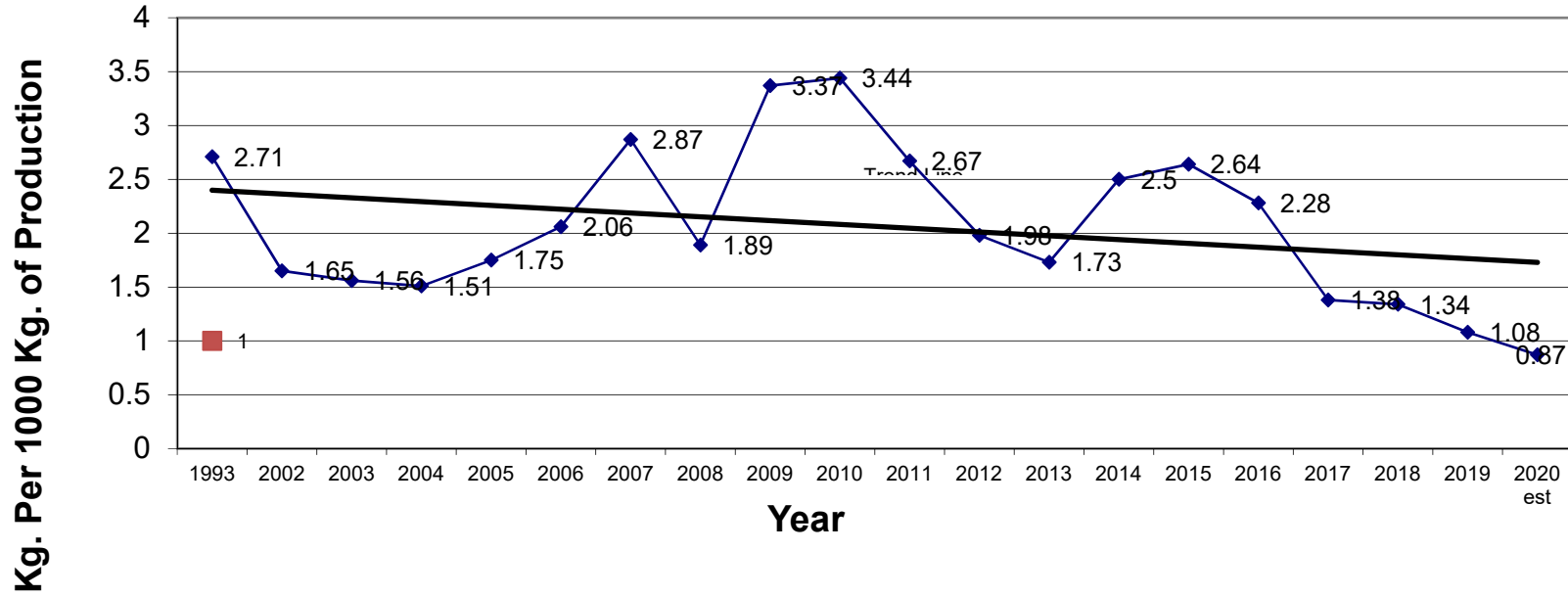
Chemical emissions per kg of production have decreased from previous year, but have remained relatively constant with a substantial drop in 2019

**Chart No. 4
Chemical Wastes**

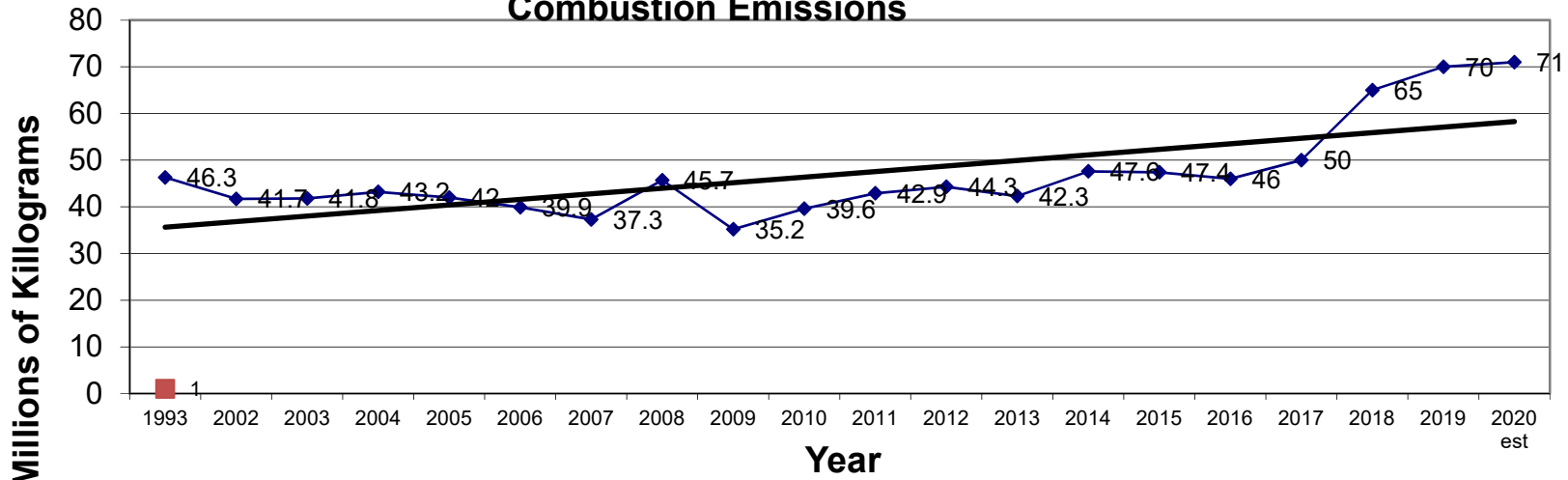


Chemical Wastes are accumulated over time and periodically shipped out for treatment. As a result, depending on the shipping dates, there can be big swings in "apparent" generation of wastes. Chemical waste has decreased from previous year.

Chart No. 5
Chemical Wastes Per 1000 Kg. of Production

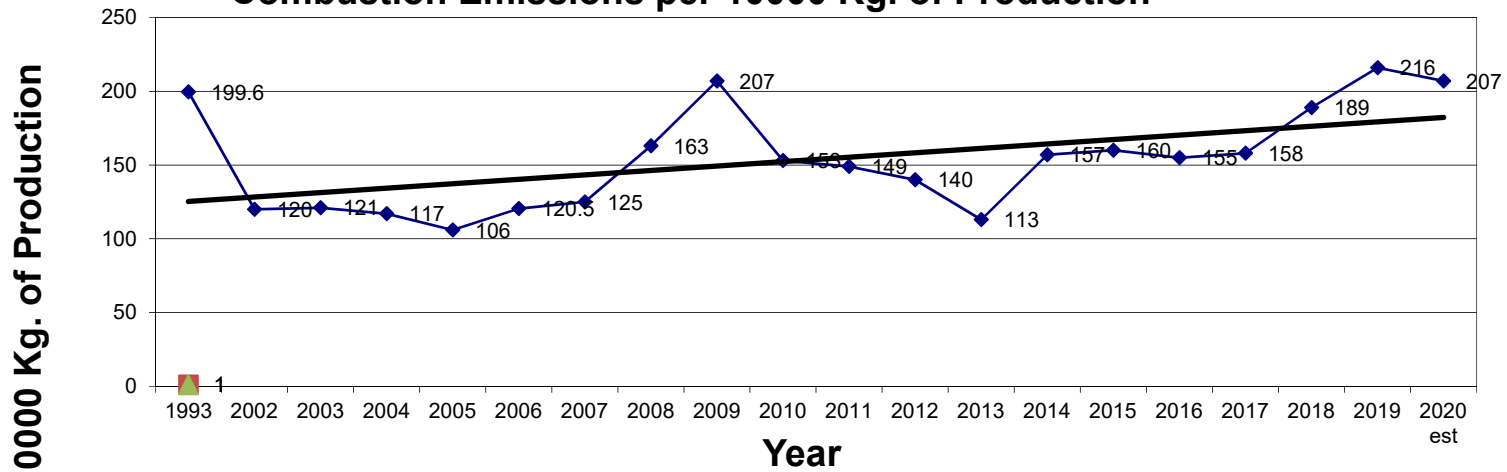


**Chart No. 6
Combustion Emissions**



Combustion emissions increase as production increases as fuel for process steam and heating requirements increase. There was a large increase in combustion emissions due to gas consumed to produce a large volume of electricity by a gas

Chart No. 7
Combustion Emissions per 10000 Kg. of Production



Combustion emissions per kg of production increased due to gas used in the generation of electrical power.

Chemical Emissions to Air and Water
Year 2019 Emissions and Comparisons with 2018 Results
Table 1

Plant No.	Chemical Name	Amount Released in 2019 Kilograms		Total 2019 kg.	Total 2018 kg.	% Change From 2018	Estimate 2020 kg.
		Waterway	Air				
2	Nitrogenous Material	861		861	861	000	904
1,2,3	Ammonia	610	3,736	4,346	12160	-280	3,746
2,3,5,6	Methanol		134	134	169	-26	128
2	Iso Octane		6,858	6,858	2287	+300	7,201
2	Vinyl Chloride	1	781	782	508	+154	821
3	White Mineral Oil**		709	709	709	000	709
3,5	Ethyl Alcohol		3,810	3,810	62,439	-1540	3,167
1,2	Nitrate Ion	26,590		26,590	23,535	+13	19,000
1,5	Isopropanol		44	44	72	-38	44
2,3,6	Phenol		9,670	9,670	17,459	-45	7,750
1,3,6	Formaldehyde		22	22	15	+46	11
5	Sodium Metasilicate**		85	85	0	+100	
2	Oil and Grease	1,117		1,117	1,117	000	1173
2	Phosphorus Salts	116		116	116	000	122
2	Aluminum Ion	145		145	145	000	152
5	Sodium Gluconate**		87	87	0	+100	97
4	Sulphur Dioxide			0	178	-100	00
	Emissions less than 100 kg./yr.*	5	201	206	317	-30	220
	Total Emissions, kg.	29,445	26,137	55,582	122,087	-54	45,245

Identification of Companies: (1) Solvay/Cytec (2) Oxy Vinyls (3) Durez (4) Chemtrade Logistics (5) Kemira Chemicals (6) Mancuso Chemicals
 *Includes: zinc; HCFC; cyanide; calcium hydroxide; ferric oxide; carbon black; naphthalene; 1,2,4-trimethyl benzene; furfuryl alcohol; ethyl benzene; gasoline, Toluene, Xylene

** New Chemicals added to the list in 2017

Chemical Wastes

Year 2019 Data and Comparisons with 2018 and 2020 Estimates

Table 2

Plant No.	Chemical Name	Amount Transferred in 2019 Kilograms		Recycled/ Treated	Total 2019 Kg	Total 2018 Kg	% Change From 2018	Estimate 2020 kg.
		Landfill	Incinerated		Does not include recycled.	Does not include recycled		Does not include recycle mat's
1	Tributyl-Phosphine Sulfide							
3,6	Phenol	1,637	5,114	77,180	6,751	2,023	+334	5,000
1,2,5,6	Liquid Industrial Waste (Oils,etc)		1,415	191,034	1,415	9,625	-680	2,000
2	Vinyl Resins	48,236		897,673	48,236	125,056	-260	50,000
1	Phosphorus Salts							
1,2,4,5	Waste Misc. Haz. Prod. & Rinses	85,585	205,474	23,834	291,059	323,458	-10	270,000
3	Formaldehyde	99	3,605	5,448	3,704	111	+3236	4,500
4	Sodium Hydroxide			2,540		0		
6	Polymer Resin Solutions							
Chemicals with wastes of 100 Kg. or less per year **								
Total Chemical Wastes		135,557	215,608	1,197,709	349,750	460,273	-32	331,500

Identification of Companies: (1) Solvay/Cytec (2) Oxy Vinyls (3) Durez (4) Chemtrade Logistics (5) Kemira Chemicals (6) Mancuso Chemical

** Includes: Mercury and Batteries.

Combustion Emissions

Burning Fuel For Steam Generation And Drying Emissions for 2019 and 2018 and Estimates for 2020

Table 3

Combustion Product Component	Amount Released		
	2019	2018	2020 Estimate
Carbon Dioxide 1000 Metric tonnes	70.02	65.3	70.64
Nitrogen Dioxide Metric tonnes	59.94	63.28	63.66
Carbon Monoxide Metric tonnes	19.38	10.3	30.36
Sulfur Oxides Metric tonnes	1.97	0.099	0.51
Methane Metric tonnes	1.39	0.345	1.15
Volatile Organic Carbon Metric tonnes	24.71	0.849	24.11
Totals 1000 Metric tonnes	70.12	65.4	70.76

Non Plant CAER Members

Fire Departments From

Fort Erie, Niagara Falls, Thorold, St Catharines

Niagara Region Police

CN Police

Niagara Region EMS

Niagara Health System

Niagara College

Associate CAER Members

First Response Environmental

Terrapure Emergency Response Services

Quantum Murray Emergency Response and Training

GHD Incident Response Services

Spartan Response

GR Environmental

Niagara CAER Group

Community Awareness – Emergency Response

For more information visit the web site at

www.niagaracaer.com

or contact the Niagara CAER Group

Coordinator

Peter Collee

pcollee@cogeco.ca

905 382-2294

Cell 905 993-2294