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Service bulletin

Industrial Chemicals and Synthetic Resins

March 2007

Highlights

- Between February and March 2007, total production of polyethylene in Canada jumped 21.1% to 326,130 metric tonnes.
- Monthly ethylene production increased in March 12.4% to 446,647 metric tonnes.
- Monthly anhydrous ammonia production rose 12.3% to 394,248 metric tonnes. Compared with the same month last year, production increased 4%.

Statistical tables

Table 1
Production of new virgin resin (excluding compounding or colouring ingredients), by product, monthly

Product	SCG [1] Code	March 2006	February 2007	March 2007	Change March 2007 to February 2007	Change March 2007 to March 2006
		metric tonnes			percentage	
Synthetic resins						
Polyethylene, low and linear low density	3901.10, 3901.90.10	x [r]	153,624	x	x	x
Polyethylene, high density	3901.20	x [r]	115,763	x	x	x
Polyethylene, total		307,460 [r]	269,387	326,130	21.1	6.1
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	16,585	6,612	7,794	17.9	-53.0
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	7,623	5,251	5,905	12.5	-22.5

x suppressed to meet the confidentiality requirements of the *Statistics Act*

1. SCG:Standard Classification of Goods.

Table 2
Production of industrial chemicals, by product, monthly

Product	SCG [1] Code	March 2006	February 2007	March 2007	Change March 2007 to February 2007	Change March 2007 to March 2006
		metric tonnes			percentage	
Acids						
Hydrochloric (muriatic) acid, 100%	2806.10.20	13,403	10,436	13,483	29.2	0.6
Nitric acid, 100 %	2808.00.10	102,207	100,364	114,923	14.5	12.4
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	342,932	278,104	324,410	16.7	-5.4
Other Industrial Chemical Products						
Aluminum sulphate (alum)	2833.22	13,206	11,503	14,555	26.5	10.2
Ammonia, anhydrous, 100%	2814.10	379,133	351,071	394,248	12.3	4.0
Ammonium nitrate, all grades	3102.30	97,666	112,510	120,154	6.8	23.0
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	23,104	22,031	25,144	14.1	8.8
Butylene	2901.23	17,829	17,250	23,079	33.8	29.4
Carbon black	2803	19,663	17,842	20,765	16.4	5.6
Chlorine	2801.10	83,344	46,192	52,838	14.4	-36.6
Ethylene	2901.21	x	397,485	446,647	12.4	x
Formaldehyde, 100% solids basis	2912.11	21,812	14,153	16,718	18.1	-23.4
Hydrogen peroxide, 100%	2847.00	20,856	20,085	20,175	0.4	-3.3
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	78,267	65,501	79,526	21.4	1.6
Sodium chlorate	2829.11	99,838	83,298	91,360	9.7	-8.5
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	91,606	52,330	58,562	11.9	-36.1
Urea, all grades	3102.10	280,758	282,250	346,440	22.7	23.4
Benzene	2902.20	66,892	56,772	71,903	26.7	7.5
Toluene	2902.30	26,625	14,680	22,211	51.3	-16.6
Xylene	2902.4	32,561	23,533	24,751	5.2	-24.0
Zinc oxide	2817.00.1	x	x	x	x	x

x suppressed to meet the confidentiality requirements of the *Statistics Act*
1. SCG:Standard Classification of Goods.

Table 3
Production of new virgin resin (excluding compounding or colouring ingredients), by product, year-to-date

Product	SCG [1] Code	Year-to-date March 2006	Year-to-date March 2007	Change year-to-date 2007 over 2006
		metric tonnes		percentage
Synthetic resins				
Polyethylene, low and linear low density	3901.10, 3901.90.10	x	x	x
Polyethylene, high density	3901.20	x	x	x
Polyethylene, total		901,589	908,828	0.8
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	49,426	23,971	-51.5
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	21,774	17,210	-21.0

x suppressed to meet the confidentiality requirements of the *Statistics Act*
1. SCG:Standard Classification of Goods.

Table 4
Production of industrial chemicals, by product, year-to-date

Product	SCG [1] Code	Year-to-date March 2006	Year-to-date March 2007	Change year-to-date 2007 over 2006
		metric tonnes		percentage
Acids				
Hydrochloric (muriatic) acid, 100%	2806.10.20	40,625	35,502	-12.6
Nitric acid, 100 %	2808.00.10	303,627	307,374	1.2
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	1,009,312	954,058	-5.5
Other industrial chemical products				
Aluminum sulphate (alum)	2833.22	37,573	39,175	4.3
Ammonia, anhydrous, 100%	2814.10	1,107,498	1,165,858	5.3
Ammonium nitrate, all grades	3102.30	299,261	323,345	8.0
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	62,541	71,504	14.3
Butylene	2901.23	45,771	59,763	30.6
Carbon black	2803	56,798	57,186	0.7
Chlorine	2801.10	246,285	149,901	-39.1
Ethylene	2901.21	x	1,274,002	x
Formaldehyde, 100% solids basis	2912.11	60,351	45,705	-24.3
Hydrogen peroxide, 100%	2847.00	61,702	61,024	-1.1
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	200,088	227,149	13.5
Sodium chlorate	2829.11	288,636	267,286	-7.4
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	272,794	168,102	-38.4
Urea, all grades	3102.10	824,221	976,348	18.5
Benzene	2902.20	189,667	189,279	-0.2
Toluene	2902.30	56,748	63,699	12.2
Xylene	2902.4	x	81,924	x
Zinc oxide	2817.00.1	x	x	x

x suppressed to meet the confidentiality requirements of the *Statistics Act*
1. SCG:Standard Classification of Goods.

Concepts, methodology and data quality

This publication presents the results of the survey, Industrial Chemicals and Synthetic Resins. This survey measures, on a monthly basis, the quantities of selected industrial chemicals and new virgin resins produced by Canadian manufacturers. The target population for this survey includes manufacturers in Canada of selected industrial chemicals and synthetic resins as defined in the Standard Classification of Goods (SCG), that report these products to the Annual Survey of Manufactures and Logging or ASML (Survey ID 2103). This means that estimates from this monthly survey do not cover the entire universe of industrial chemicals and synthetic resins producers in Canada, because the ASML does not survey all businesses. Instead, the ASML uses administrative data to cover the small and medium-sized establishments. These manufacturers are not part of this survey.

General methodology

Data are collected each month from survey respondents using a mail-out / mail-back process. Data capture and preliminary editing are performed simultaneously to ensure validity of the data. Businesses from whom no response has been received or whose data may contain errors are followed-up by telephone or fax.

Missing data for the current month are imputed automatically by applying to the previous month's value, the month-to-month change observed for the same period in the previous year, for the unit in question. However, an option exists for analysts to manually override this imputation with a better estimate based on pertinent knowledge about the industry or the business.

Various confidentiality rules are applied to all data before they are released to prevent the publication or disclosure of any information deemed confidential. If necessary, data are suppressed to prevent direct or residual disclosure of identifiable data.

Direct disclosure could occur when the value in a tabulation cell is composed of a few respondents or when the cell is dominated by a few companies. Residual disclosure could occur when confidential information can be derived indirectly by piecing together information from different sources or data series.

Under normal circumstances, data are collected, captured, edited, tabulated and published within 6 to 7 weeks after the reference month.

Revisions

Data may be revised to include amended information or reports from respondents that are received after the end of a collection cycle. Revisions are disseminated in subsequent periods and reflected in the CANSIM series and in the tables of this publication.

Data accuracy

The methodology for this survey has been designed to promote data accuracy. Since data are collected from all Canadian producers of industrial chemicals and synthetic resins within the target population, the resulting estimates are not subject to sampling error. However, the results are still subject to non-sampling errors associated with coverage, non-response, inaccurate reporting, and processing. Errors relating to coverage and non-response can be measured. All attempts are made to control inaccurate reporting and processing errors.

Moreover, survey results are analyzed to ensure comparability with patterns observed in the historical data series and the economic condition of the industry. Information available from other sources such as the media, other government organizations and industry association are also used in the validation process.

Coverage error

There is a degree of under coverage (referred to as coverage error) in the survey results as there is generally a lag between the time a new business comes into existence and when it is included in the universe of this sub-annual survey. This occurs because the list of businesses surveyed is derived from the latest available survey results for the ASML which are not available until 15 months after the reference period.

This error is kept at a minimum by also using advance information from the ASML, and other sources such as the Canadian Chemicals Producers' Association, trade journals and newspaper articles to identify new survey units.

Based on the ASML 2004 (latest available survey results), the coverage error for the Industrial Chemicals and Synthetic Resins survey was 3%.

Non-response error

Some respondents may be unable to provide data for numerous reasons (i.e. fire, theft, strike, economic hardship, etc.), while others may be too late in responding. To minimize non-response, delinquent respondents are followed up rigorously by phone or fax. Data for the non-responding units are imputed using industry trend and other related information. Data are revised at a later date, if completed questionnaires are received after the end of a collection cycle.

The average non-response error for the Industrial Chemicals and Synthetic Resins survey was estimated at less than 1% for 2005 (the last completed cycle).

Inaccurate response

Inaccuracy may result from poor questionnaire design or an inability on the part of respondents to provide the requested information or from misinterpretation of the survey questions. To reduce such errors, the format

and wording in the questionnaire are reviewed from time to time and modified based on feedback from survey respondents and data users. Respondents are also reminded of the importance of their contribution and of the need for accurate reporting.

Processing errors

These errors may occur at various stages in the processing of survey data such as data entry, verification, editing and tabulation. Data are examined for such errors using automated edits along with an analytical review by subject matter experts. Several checks are performed on the collected data to verify internal consistency and comparability over time.

Definitions

Production: production refers to the quantity of products manufactured in Canada during a reference period including intermediate products. The final products may be shipped or retained in inventory.

More detailed data are available from the Annual Survey of Manufactures and Logging, CANSIM Table 301-0003. Specific enquiries should be directed to: The marketing and dissemination section, manufacturing, construction and energy division, Statistics Canada, Ottawa, Ontario, K1A OT6 (Telephone: 1-866-873-8789 or 613-951-9497; Fax line: 613-951-9499; Internet: *manufact@statcan.ca*).

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
p	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published

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