



## Service bulletin

# Industrial Chemicals and Synthetic Resins

July 2006



### Highlights

- Between June 2006 and July 2006, production of polyethylene in Canada went up 2.3% to 303,126 metric tonnes.
- Monthly ethylene production increased by 7.6% in July to reach 421,024 metric tonnes.
- Polystyrene production rebounded 119% to 17,649 metric tonnes in July as plants resumed production after some shutdowns in June.

### Statistical tables

Table 1

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

Product	SCG <sup>1</sup> Code	July 2005	June 2006	July 2006	Change July 2006 to June 2006	
					metric tonnes	%
<b>Synthetic resins</b>						
Polyethylene, low and linear low density	3901.10, 3901.90.10	x <sup>r</sup>	x	x	x	x
Polyethylene, high density	3901.20	x <sup>r</sup>	x	x	x	x
<b>Polyethylene, total</b>		300,336 <sup>r</sup>	296,269	303,126	2.3	0.9
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	18,436	8,057	17,649	119.1	-4.3
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	6,402	7,402	5,689	-23.1	-11.1

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 <sup>1</sup> Code	July 2005	June 2006	July 2006	Change July 2006 to June 2006	Change July 2006 to July 2005
		metric tonnes			%	
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,393	13,470	13,265	-1.5	16.4
Nitric acid, 100 %	2808.00.10	86,873	96,642	90,047	-6.8	3.7
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	239,003	283,782	251,579	-11.3	5.3
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	15,671	14,883	14,420	-3.1	-8.0
Ammonia, anhydrous, 100%	2814.10	384,124	389,976	363,298	-6.8	-5.4
Ammonium nitrate, all grades	3102.30	93,251	96,684	87,803	-9.2	-5.8
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	18,861	20,356	21,358	4.9	13.2
Butylene	2901.23	21,757	18,004	20,774	15.4	-4.5
Carbon black	2803	17,810	18,661	17,537	-6.0	-1.5
Chlorine	2801.10	85,082	79,642	81,707	2.6	-4.0
Ethylene	2901.21	352,339	391,174	421,024	7.6	19.5
Formaldehyde, 100% solids basis	2912.11	23,243	20,497	19,790	-3.4	-14.9
Hydrogen peroxide, 100%	2847.00	19,971	x	20,779	x	4.0
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	70,173	52,109	74,309	42.6	5.9
Sodium chlorate	2829.11	100,817	90,401	90,623	0.2	-10.1
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	93,591	85,851	87,918	2.4	-6.1
Urea, all grades	3102.10	283,025	298,841	301,686	1.0	6.6
Benzene	2902.20	66,299	59,851	69,321	15.8	4.6
Toluene	2902.30	14,173	15,693	24,220	54.3	70.9
Xylene	2902.4	22,836	15,731	25,478	62.0	11.6
Zinc oxide	2817.00.1	x	x	x	x	x

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

Product	SCG <sup>1</sup> Code	Year-to-date July 2005	Year-to-date July 2006	Change year-to-date 2006 over 2005
		metric tonnes		%
<b>Synthetic resins</b>				
Polyethylene, low and linear low density	3901.10, 3901.90.10	x	x	x
Polyethylene, high density	3901.20	x	x	x
<b>Polyethylene, total</b>		1,960,900	2,102,578	7.2
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	119,868	112,039	-6.5
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	53,044	49,475	-6.7

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 <sup>1</sup> Code	Year-to-date July 2005	Year-to-date July 2006	Change year-to-date 2006 over 2005
		metric tonnes		%
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	80,138	92,984	16.0
Nitric acid, 100 %	2808.00.10	699,870	686,604	-1.9
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	2,160,697	2,208,678	2.2
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	103,019	95,349	-7.4
Ammonia, anhydrous, 100%	2814.10	2,765,632	2,651,555	-4.1
Ammonium nitrate, all grades	3102.30	718,495	688,737	-4.1
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	153,794	151,520	-1.5
Butylene	2901.23	140,937	128,448	-8.9
Carbon black	2803	135,377	131,083	-3.2
Chlorine	2801.10	592,907	572,463	-3.4
Ethylene	2901.21	2,806,757	x	x
Formaldehyde, 100% solids basis	2912.11	x	141,846	x
Hydrogen peroxide, 100%	2847.00	144,518	x	x
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	483,937	465,160	-3.9
Sodium chlorate	2829.11	684,979	652,416	-4.8
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	659,414	624,596	-5.3
Urea, all grades	3102.10	2,092,101	2,087,261	-0.2
Benzene	2902.20	525,334	443,430	-15.6
Toluene	2902.30	127,356	143,527	12.7
Xylene	2902.4	192,952	x	x
Zinc oxide	2817.00.1	x	x	x

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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 all manufacturers in Canada of industrial chemicals and synthetic resins as defined in the Standard Classification of Goods (SCG), that report these products to the . The businesses included in these 4 surveys are selected from respondents 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 0T6 (Telephone: 1-866-873-8789 or 613-951-9497; Fax line: 613-951-9499; Internet: [manufact@statcan.ca](mailto:manufact@statcan.ca)).

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