



# Service bulletin Industrial Chemicals and Synthetic Resins



December 2006

## Highlights

- Between November 2006 and December 2006, production of polyethylene in Canada decreased 6.5% to 296,264 metric tonnes. Compared with the level for December 2005, production increased 20.5%.
- Monthly anhydrous ammonia production rose 5.4% to 404,339 metric tonnes in December. Compared with the same month last year, production climbed 27.3%.
- In December, urea production jumped 21.4% to 338,650 metric tonnes

## Statistical tables

Table 1

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

Product	SCG <sup>1</sup> Code	December 2005	November 2006	December 2006	Change	
					December 2006 to November 2006	December 2006 to December 2005
		metric tonnes			percentage	
<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>		245,923 <sup>r</sup>	316,789	296,264	-6.5	20.5
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	15,857	12,167	10,635	-12.6	-32.9
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	6,159	6,185	5,435	-12.1	-11.8

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	December 2005	November 2006	December 2006	Change December 2006 to November 2006	Change December 2006 to December 2005
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	13,412	11,767	13,406	13.9	0.0
Nitric acid, 100 %	2808.00.10	64,970	97,504	102,590	5.2	57.9
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	314,425	337,039	332,638	-1.3	5.8
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	12,900	13,328	13,129	-1.5	1.8
Ammonia, anhydrous, 100%	2814.10	317,687	383,521	404,339	5.4	27.3
Ammonium nitrate, all grades	3102.30	74,259	101,692	99,398	-2.3	33.9
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	16,119	21,370	21,098	-1.3	30.9
Butylene	2901.23	11,703	13,715	16,260	18.6	38.9
Carbon black	2803	19,995	15,927	19,530	22.6	-2.3
Chlorine	2801.10	85,297	62,539	60,733	-2.9	-28.8
Ethylene	2901.21	397,437	x	x	x	x
Formaldehyde, 100% solids basis	2912.11	20,176	17,272	16,718	-3.2	-17.1
Hydrogen peroxide, 100%	2847.00	21,571	14,836	19,306	30.1	-10.5
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	47,630	67,402	75,770	12.4	59.1
Sodium chlorate	2829.11	100,582	88,041	91,023	3.4	-9.5
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	93,861	69,592	67,458	-3.1	-28.1
Urea, all grades	3102.10	266,036	278,948	338,650	21.4	27.3
Benzene	2902.20	58,841	63,276	65,851	4.1	11.9
Toluene	2902.30	4,737	19,195	26,240	36.7	453.9
Xylene	2902.4	x	18,663	32,888	76.2	x
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 <sup>1</sup> Code	Year-to-date December 2005	Year-to-date December 2006	Change year-to-date 2006 over 2005
<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>				
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	3,365,636	3,594,075	6.8
Polyvinyl chloride	3904.10	197,761	195,131	-1.3
Polyesters, unsaturated	3907.91	x	x	x
		89,581	80,842	-9.8

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	Year-to-date	Change year-to-date 2006 over 2005
		December 2005	December 2006	
		metric tonnes		percentage
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	141,839	155,103	9.4
Nitric acid, 100 %	2808.00.10	1,147,029	1,180,042	2.9
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	3,743,256	3,822,350	2.1
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	174,930	163,893	-6.3
Ammonia, anhydrous, 100%	2814.10	4,607,013	4,622,949	0.3
Ammonium nitrate, all grades	3102.30	1,205,729	1,181,268	-2.0
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	245,559	261,524	6.5
Butylene	2901.23	220,842	212,276	-3.9
Carbon black	2803	234,586	225,258	-4.0
Chlorine	2801.10	1,008,047	928,842	-7.9
Ethylene	2901.21	x	x	x
Formaldehyde, 100% solids basis	2912.11	x	236,214	x
Hydrogen peroxide, 100%	2847.00	243,890	x	x
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	736,908	832,667	13.0
Sodium chlorate	2829.11	1,169,092	1,110,756	-5.0
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	1,118,548	1,012,264	-9.5
Urea, all grades	3102.10	3,549,041	x	x
Benzene	2902.20	798,091	743,371	-6.9
Toluene	2902.30	x	252,689	x
Xylene	2902.4	x	x	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 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)).

Release date: February 2007

### 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
0 <sup>s</sup>	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 <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

### Information to access the product

This product, catalogue no. 46-002-XIE, is available for free in electronic format. To obtain a single issue, visit our website at [www.statcan.ca](http://www.statcan.ca) and select Publications.

Frequency: Monthly / ISSN 1481-5354

For information on the wide range of data available from Statistics Canada, please call our national inquiries line at 1-800-263-1136.

La version française de cette publication est disponible sur demande (n° 46-002-XIF au catalogue).

Published by authority of the Minister responsible for Statistics Canada. © Minister of Industry, 2007. All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

### Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable, courteous, and fair manner. To this end, the Agency has developed standards of service that its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1-800-263-1136. The service standards are also published on [www.statcan.ca](http://www.statcan.ca) under About us > Providing services to Canadians.

### Note of appreciation

Canada owes the success of its statistical system to a long standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.