



Industrial Chemicals and Synthetic Resins

November 2005



Vol. 48, no. 11

All prices exclude sales tax

Catalogue no. 46-002-XIE, is available on Internet monthly for \$6.00 CAN per issue or \$51.00 CAN for a one year subscription.

Frequency: Monthly / ISSN 1481-5354

To order Statistics Canada publications, please call our national toll-free line: 1 800 267-6677 or internet: infostats@statcan.ca

Highlights

- Total polyethylene production in November by Canadian manufacturers decreased 5.6 % from October to 285,204 metric tonnes. Year-to-date production is also down 4.8 % from the same period in 2004 to 3,119,713 metric tonnes. Polyethylene production continues to be constrained by the availability of ethylene feedstock.
- Ethylene production has been impacted by plant shutdowns. November production of 382,880 metric tonnes was down 11.8 % compared to November 2004.
- Plant shutdowns in November also resulted in significant production declines of butadiene and butylenes.

Data available on CANSIM, table 303-0014.

Manufacturing, Construction and Energy Division

January 2006

Published by authority of the Minister responsible for Statistics Canada. © Minister of Industry, 2006. All rights reserved. Use of this product is limited to the licensee and its employees. The product cannot be reproduced and transmitted to any person or organization outside of the licensee's organization.

Reasonable rights of use of the content of this product are granted solely for personal, corporate or public policy research, or educational purposes. This permission includes the use of the content in analyses and the reporting of results and conclusions, including the citation of limited amounts of supporting data extracted from the data product in these documents. These materials are solely for non-commercial purposes. In such cases, the source of the data must be acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, name of product, catalogue, volume and issue numbers, reference period and page(s). Otherwise, users shall seek prior written permission of Licensing Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada, K1A 0T6.

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 and governments. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Standards of Service to the Public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service which 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 under About Statistics Canada > Providing services to Canadians.

Table 1

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

Product	SCG ⁺ Code	November 2004	October 2005	November 2005	Change November 2005/ October 2005	Change November 2005/ November 2004
		metric tonnes		%		
Synthetic resins						
Polyethylene, low and linear low density	3901.10, 3901.90.10	178,112 r	x	x	x	x
Polyethylene, high density	3901.20	131,971 r	x	x	x	x
Polyethylene, total		310,083 r	301,987	285,204	-5.6	-8.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	17,950	14,306	15,671	9.5	-12.7
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	8,206	7,720	7,745	0.3	-5.6

Table 2

Production of industrial chemicals, by product, monthly

Product	SCG ⁺ Code	November 2004	October 2005	November 2005	Change November 2005/ October 2005	Change November 2005/ November 2004
		metric tonnes		%		
Acids						
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,718	12,671	12,401	-2.1	5.8
Nitric acid, 100 %	2808.00.10	112,336	100,179	85,525	-14.6	-23.9
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	350,237	333,386	332,212	-0.4	-5.1
Other Industrial Chemical Products						
Aluminum sulphate (alum)	2833.22	13,223	14,402	13,072	-9.2	-1.1
Ammonia, anhydrous, 100%	2814.10	384,395	379,373	346,135	-8.8	-10.0
Ammonium nitrate, all grades	3102.30	114,011	105,511	89,109	-15.5	-21.8
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	23,262	21,342	14,423	-32.4	-38.0
Butylene	2901.23	19,817	18,653	10,728	-42.5	-45.9
Carbon black	2803	19,020	21,670	18,749	-13.5	-1.4
Chlorine	2801.10	88,244	80,480	81,749	1.6	-7.4
Ethylene	2901.21	434,208	384,098	382,880	-0.3	-11.8
Formaldehyde, 100% solids basis	2912.11	22,036	22,819	20,347	-10.8	-7.7
Hydrogen peroxide, 100%	2847.00	20,968	19,268	18,377	-4.6	-12.4
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	76,273	46,168	39,198	-15.1	-48.6
Sodium chlorate	2829.11	104,121	98,145	97,335	-0.8	-6.5
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	99,161	90,064	91,429	1.5	-7.8
Urea, all grades	3102.10	315,504	320,708	291,161	-9.2	-7.7
Benzene	2902.20	76,015	55,989	59,047	5.5	-22.3
Toluene	2902.30	20,383	11,192	x	x	x
Xylene	2902.4	28,704	x	16,429	x	-42.8
Zinc oxide	2817.00.1	x	x	x	x	x

Table 3

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

Product	SCG [†] Code	Year-to-date November 2004	Year-to-date November 2005	Change year-to-date 2005/2004
		metric tonnes		%
Synthetic resins				
Polyethylene, low and linear low density	3901.10, 3901.90.10	x	x	x
Polyethylene, high density	3901.20	1,446,019	x	x
Polyethylene, total		3,276,670	3,119,713	-4.8
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	190,636	181,904	-4.6
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	93,372	83,870	-10.2

Table 4

Production of industrial chemicals, by product, Year-to-date

Product	SCG [†] Code	Year-to-date November 2004	Year-to-date November 2005	Change year-to-date 2005/2004
		metric tonnes		%
Acids				
Hydrochloric (muriatic) acid, 100%	2806.10.20	138,861	128,174	-7.7
Nitric acid, 100 %	2808.00.10	1,120,398	1,082,059	-3.4
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	3,584,536	3,440,087	-4.0
Other Industrial Chemical Products				
Aluminum sulphate (alum)	2833.22	152,178	162,030	6.5
Ammonia, anhydrous, 100%	2814.10	4,585,897	4,289,326	-6.5
Ammonium nitrate, all grades	3102.30	1,001,187	1,131,470	13.0
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	264,071	228,900	-13.3
Butylene	2901.23	220,261	209,134	-5.1
Carbon black	2803	204,227	214,591	5.1
Chlorine	2801.10	973,223	918,480	-5.6
Ethylene	2901.21	4,651,646	x	x
Formaldehyde, 100% solids basis	2912.11	248,571	x	x
Hydrogen peroxide, 100%	2847.00	222,072	222,319	0.1
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	862,599	688,907	-20.1
Sodium chlorate	2829.11	1,075,869	1,068,510	-0.7
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	1,052,054	1,022,885	-2.8
Urea, all grades	3102.10	3,348,062	3,283,005	-1.9
Benzene	2902.20	829,467	739,250	-10.9
Toluene	2902.30	x	x	x
Xylene	2902.4	325,386	x	x
Zinc oxide	2817.00.1	x	x	x

Explanatory Notes

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 or ASM (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 ASM does not survey all businesses. Instead, the ASM uses administrative data to cover the small and medium-sized establishments. These manufacturers are not part of this survey.

General methodology

Data are collected monthly 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 and are presented below. All attempts are made to control/minimize inaccurate reporting and processing errors.

Moreover, the data are analyzed for consistency by comparing to historical series and economic conditions in the industry. Information available from other sources such as the media, other government organizations and industry associations 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 ASM 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 ASM, and other sources such as the Canadian Chemicals Producers' Association, trade journals and newspaper articles to identify new survey units. Based on the ASM 2003 (latest available survey results), the coverage error for the Industrial Chemicals and Synthetic Resins survey was 2%.

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 3% for 2004 (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, 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).