



Industrial Chemicals and Synthetic Resins

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Highlights

- Between December 2005 and January 2006, production of polyethylene in Canada climbed 17.8% to 289,643 metric tonnes. Compared with the same month last year, production in January 2006 rose 3%.
- Hampered by plant shutdowns in late 2005, monthly ethylene production recovered in January increasing 4.1% to reach 413,725 metric tonnes.
- Ammonium nitrate production rebounded 42.6% to 105,885 metric tonnes in January.

Data available on CANSIM, table 303-0014.

Manufacturing, Construction and Energy Division

March 2006

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Table 1

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

Product	SCG* Code	January 2005	December 2005	January 2006	Change January 2006/ December 2005	Change January 2006/ January 2005
		metric tonnes		%		
Synthetic resins						
Polyethylene, low and linear low density	3901.10, 3901.90.10	171,299 r	x	x	x	x
Polyethylene, high density	3901.20	109,858 r	x	x	x	x
Polyethylene, total		281,157 r	245,923	289,643	17.8	3.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	18,457	15,857	17,569	10.8	-4.8
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	6,729	6,159	6,919	12.3	2.8

Table 2

Production of industrial chemicals, by product, monthly

Product	SCG* Code	January 2005	December 2005	January 2006	Change January 2006/ December 2005	Change January 2006/ January 2005
		metric tonnes		%		
Acids						
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,322	13,412	13,989	4.3	23.6
Nitric acid, 100 %	2808.00.10	102,624	64,970	106,455	63.9	3.7
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	336,529	314,425	358,481	14.0	6.5
Other Industrial Chemical Products						
Aluminum sulphate (alum)	2833.22	13,057	12,900	12,741	-1.2	-2.4
Ammonia, anhydrous, 100%	2814.10	411,098	317,687	370,679	16.7	-9.8
Ammonium nitrate, all grades	3102.30	102,117	74,259	105,885	42.6	3.7
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	21,493	16,119	17,055	5.8	-20.6
Butylene	2901.23	20,764	11,703	12,219	4.4	-41.2
Carbon black	2803	20,010	19,995	19,486	-2.5	-2.6
Chlorine	2801.10	81,858	85,297	83,869	-1.7	2.5
Ethylene	2901.21	446,655	397,437	413,725	4.1	-7.4
Formaldehyde, 100% solids basis	2912.11	x	20,176	20,270	0.5	x
Hydrogen peroxide, 100%	2847.00	21,991	21,571	22,227	3.0	1.1
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	79,852	47,630	50,334	5.7	-37.0
Sodium chlorate	2829.11	103,836	100,582	99,595	-1.0	-4.1
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	92,908	93,861	92,071	-1.9	-0.9
Urea, all grades	3102.10	296,295	266,036	280,037	5.3	-5.5
Benzene	2902.20	85,938	58,841	61,746	4.9	-28.2
Toluene	2902.30	27,226	4,737	12,904	172.4	-52.6
Xylene	2902.4	29,133	x	x	x	x
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 January 2005	Year-to-date January 2006	Change year-to-date 2006/2005
		metric tonnes		%
Synthetic resins				
Polyethylene, low and linear low density	3901.10, 3901.90.10	171,299	x	x
Polyethylene, high density	3901.20	109,858	x	x
Polyethylene, total		281,157	289,643	3.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	18,457	17,569	-4.8
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	6,729	6,919	2.8

Table 4

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

Product	SCG [†] Code	Year-to-date January 2005	Year-to-date January 2006	Change year-to-date 2006/2005
		metric tonnes		%
Acids				
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,322	13,989	23.6
Nitric acid, 100 %	2808.00.10	102,624	106,455	3.7
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	336,529	358,481	6.5
Other Industrial Chemical Products				
Aluminum sulphate (alum)	2833.22	13,057	12,741	-2.4
Ammonia, anhydrous, 100%	2814.10	411,098	370,679	-9.8
Ammonium nitrate, all grades	3102.30	102,117	105,885	3.7
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	21,493	17,055	-20.6
Butylene	2901.23	20,764	12,219	-41.2
Carbon black	2803	20,010	19,486	-2.6
Chlorine	2801.10	81,858	83,869	2.5
Ethylene	2901.21	446,655	413,725	-7.4
Formaldehyde, 100% solids basis	2912.11	x	20,270	x
Hydrogen peroxide, 100%	2847.00	21,991	22,227	1.1
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	79,852	50,334	-37.0
Sodium chlorate	2829.11	103,836	99,595	-4.1
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	92,908	92,071	-0.9
Urea, all grades	3102.10	296,295	280,037	-5.5
Benzene	2902.20	85,938	61,746	-28.2
Toluene	2902.30	27,226	12,904	-52.6
Xylene	2902.4	29,133	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).