



Industrial Chemicals and Synthetic Resins

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Highlights

- Between February 2006 and March 2006, production of polyethylene in Canada increased 1% to reach 307,460 metric tonnes, its highest level since January 2005.
- Production of ammonia in March 2006 rose 6.0% to reach 379,133 metric tones, its highest level since October 2005.
- Monthly production of sulphuric acid increased 11.4% in March 2006 to 342,932 metric tonnes.

Data available on CANSIM, table 303-0014.

Manufacturing, Construction and Energy Division

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Table 1

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

Product	SCG ⁺ Code	March 2005	February 2006	March 2006	Change March 2006/ February 2006	Change March 2006/ March 2005
		metric tonnes			%	
Synthetic resins						
Polyethylene, low and linear low density	3901.10, 3901.90.10	165,136 r	x	x	x	x
Polyethylene, high density	3901.20	122,886 r	x	x	x	x
Polyethylene, total		288,022 r	304,486	307,460	1.0	6.7
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	18,408	15,272	16,585	8.6	-9.9
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	8,122	7,232	7,623	5.4	-6.1

Table 2

Production of industrial chemicals, by product, monthly

Product	SCG ⁺ Code	March 2005	February 2006	March 2006	Change March 2006/ February 2006	Change March 2006/ March 2005
		metric tonnes			%	
Acids						
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,420	13,353	13,403	0.4	17.4
Nitric acid, 100 %	2808.00.10	108,290	94,965	102,207	7.6	-5.6
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	367,385	307,899	342,932	11.4	-6.7
Other Industrial Chemical Products						
Aluminum sulphate (alum)	2833.22	13,418	11,626	13,206	13.6	-1.6
Ammonia, anhydrous, 100%	2814.10	397,520	357,686	379,133	6.0	-4.6
Ammonium nitrate, all grades	3102.30	106,232	95,710	97,666	2.0	-8.1
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	24,834	22,498	23,104	2.7	-7.0
Butylene	2901.23	19,771	15,723	17,829	13.4	-9.8
Carbon black	2803	21,039	17,649	19,663	11.4	-6.5
Chlorine	2801.10	87,019	83,156	83,344	0.2	-4.2
Ethylene	2901.21	427,578	x	x	x	x
Formaldehyde, 100% solids basis	2912.11	23,147	20,351	16,112	-20.8	-30.4
Hydrogen peroxide, 100%	2847.00	22,075	18,619	20,856	12.0	-5.5
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	76,375	71,723	78,267	9.1	2.5
Sodium chlorate	2829.11	104,516	89,203	99,838	11.9	-4.5
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	95,082	90,959	91,606	0.7	-3.7
Urea, all grades	3102.10	289,207	263,426	280,758	6.6	-2.9
Benzene	2902.20	72,562	61,029	66,892	9.6	-7.8
Toluene	2902.30	18,187	17,219	26,625	54.6	46.4
Xylene	2902.4	32,706	26,535	32,561	22.7	-0.4
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 March 2005	Year-to-date March 2006	Change year-to-date 2006/2005
		metric tonnes		%
Synthetic resins				
Polyethylene, low and linear low density	3901.10, 3901.90.10	503,701	x	x
Polyethylene, high density	3901.20	354,833	x	x
Polyethylene, total		858,534	901,589	5.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	53,315	49,426	-7.3
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	22,655	21,774	-3.9

Table 4

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

Product	SCG [†] Code	Year-to-date March 2005	Year-to-date March 2006	Change year-to-date 2006/2005
		metric tonnes		%
Acids				
Hydrochloric (muriatic) acid, 100%	2806.10.20	33,745	40,685	20.6
Nitric acid, 100 %	2808.00.10	320,247	303,627	-5.2
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	1,023,852	1,009,312	-1.4
Other Industrial Chemical Products				
Aluminum sulphate (alum)	2833.22	39,084	37,573	-3.9
Ammonia, anhydrous, 100%	2814.10	1,180,204	1,107,498	-6.2
Ammonium nitrate, all grades	3102.30	322,052	299,261	-7.1
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	69,715	62,599	-10.2
Butylene	2901.23	59,686	45,771	-23.3
Carbon black	2803	59,348	56,798	-4.3
Chlorine	2801.10	247,607	248,327	0.3
Ethylene	2901.21	1,285,465	x	x
Formaldehyde, 100% solids basis	2912.11	x	55,988	x
Hydrogen peroxide, 100%	2847.00	64,220	61,702	-3.9
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	228,016	200,206	-12.2
Sodium chlorate	2829.11	302,584	288,636	-4.6
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	275,302	273,715	-0.6
Urea, all grades	3102.10	873,871	824,221	-5.7
Benzene	2902.20	233,288	189,667	-18.7
Toluene	2902.30	69,418	56,748	-18.3
Xylene	2902.4	94,137	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).