

# Service bulletin

## Industrial Chemicals and Synthetic Resins



May 2009

### Highlights

- In May 2009, total production of polyethylene in Canada decreased 23.6% to 226,124 metric tonnes.
- Monthly anhydrous ammonia production decreased 10.1% to 401,196 metric tonnes in May 2009. Production declined 6.9% from the same month last year.
- Between April 2009 and May 2009, the production of urea increased 3.2% to 368,531 metric tonnes.
- Monthly production of sulphuric acid decreased 31.9% to 211,064 metric tonnes in May 2009. Compared with May 2008, production was down 36.8%.

### Statistical tables

Table 1

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

Product	SCG <sup>1</sup> Code	May 2008	April 2009	May 2009	Change May 2009 to April 2009	Change May 2009 to May 2008
<b>Synthetic resins</b>						
Polyethylene, low and linear low density	3901.10, 3901.90.10	150,501 <sup>r</sup>	177,463	126,042	-29.0	-16.3
Polyethylene, high density	3901.20	137,113 <sup>r</sup>	118,604	100,082	-15.6	-27.0
<b>Polyethylene, total</b>		287,614 <sup>r</sup>	296,067	226,124	-23.6	-21.4
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	x	x	x	x	x
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	5,158	1,458	2,518	72.7	-51.2

1. SCG: Standard Classification of Goods.

**Table 2**  
**Production of industrial chemicals, by product, monthly**

Product	SCG <sup>1</sup> Code	May 2008	April 2009	May 2009	Change May 2009 to April 2009	Change May 2009 to May 2008
		metric tonnes		percent		
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	12,411	11,357	10,919	-3.9	-12.0
Nitric acid, 100 %	2808.00.10	78,186	50,264	53,724	6.9	-31.3
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	333,759	309,984	211,064	-31.9	-36.8
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	21,738	18,763	17,778	-5.2	-18.2
Ammonia, anhydrous, 100%	2814.10	430,934	364,393	401,196	10.1	-6.9
Ammonium nitrate, all grades	3102.30	116,139	87,645	91,254	4.1	-21.4
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	x	16,541	15,163	-8.3	x
Butylene	2901.23	14,710	11,132	15,129	35.9	2.8
Carbon black	2803	x	x	x	x	x
Chlorine	2801.10	47,947	35,834	42,674	19.1	-11.0
Ethylene	2901.21	x	x	x	x	x
Formaldehyde, 100% solids basis	2912.11	14,673	10,535	10,949	3.9	-25.4
Hydrogen peroxide, 100%	2847.00	19,180	16,016	16,009	0.0	-16.5
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	64,541	52,076	56,134	7.8	-13.0
Sodium chlorate	2829.11	88,020	71,683	72,067	0.5	-18.1
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	54,755	48,134	61,460	27.7	12.2
Urea, all grades	3102.10	339,535	357,230	368,531	3.2	8.5
Benzene	2902.20	64,554	51,523	114,919	123.0	78.0
Toluene	2902.30	28,293	8,606	11,073	28.7	-60.9
Xylene	2902.4	20,106	27,866	23,437	-15.9	16.6
Zinc oxide	2817.00.1	x	x	x	x	x

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 May 2008	Year-to-date May 2009	Change year-to-date 2009 over 2008
		metric tonnes		percent
<b>Synthetic resins</b>				
Polyethylene, low and linear low density	3901.10, 3901.90.10	797,447	x	x
Polyethylene, high density	3901.20	647,847	x	x
<b>Polyethylene, total</b>		1,445,294	1,347,429	-6.8
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	x	x	x
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	25,833	11,440	-55.7

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 2009 over 2008
		May 2008	May 2009	
		metric tonnes		percent
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	57,352	58,988	2.9
Nitric acid, 100 %	2808.00.10	374,333	278,714	-25.5
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	1,757,817	1,505,325	-14.4
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	90,251	86,057	-4.6
Ammonia, anhydrous, 100%	2814.10	2,019,565	1,783,505	-11.7
Ammonium nitrate, all grades	3102.30	533,519	469,397	-12.0
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	x	75,198	x
Butylene	2901.23	82,777	65,277	-21.1
Carbon black	2803	x	x	x
Chlorine	2801.10	238,390	207,109	-13.1
Ethylene	2901.21	x	x	x
Formaldehyde, 100% solids basis	2912.11	73,784	54,141	-26.6
Hydrogen peroxide, 100%	2847.00	104,375	85,561	-18.0
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	360,404	243,009	-32.6
Sodium chlorate	2829.11	460,662	383,917	-16.7
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	268,432	292,106	8.8
Urea, all grades	3102.10	1,617,928	1,672,854	3.4
Benzene	2902.20	316,586	297,003	-6.2
Toluene	2902.30	110,173	48,940	-55.6
Xylene	2902.4	x	116,009	x
Zinc oxide	2817.00.1	x	x	x

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 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 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 301-0006. Specific enquiries should be directed to: The Dissemination and Frame Services section, Manufacturing and Energy Division, Statistics Canada, Ottawa, Ontario, K1A 0T6 (Telephone: 1-866-873-8789 or 613-951-9497; Fax line: 613-951-3877; Internet: [manufact@statcan.gc.ca](mailto:manufact@statcan.gc.ca)).

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### 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

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