

# Service bulletin

## Industrial Chemicals and Synthetic Resins



May 2008

### Highlights

- In May 2008, anhydrous ammonia production rose 11.6% to 389,817 metric tonnes, although production was down 0.7% from the same month last year.
- Monthly production of urea increased 10.2% to 339,535 metric tonnes. Compared with May 2007, production was up 1.0%.
- The production of sulphuric acid in May 2008 declined 2.0% to 333,759 metric tonnes.
- Between April and May 2008, total production of polyethylene decreased 0.8% to 287,614 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	May 2007	April 2008	May 2008	Change May 2008 to April 2008	Change May 2008 to May 2007
<b>Synthetic resins</b>						
Polyethylene, low and linear low density	3901.10, 3901.90.10	172,861 <sup>r</sup>	160,202	150,501	-6.1	-12.9
Polyethylene, high density	3901.20	126,630 <sup>r</sup>	129,708	137,113	5.7	8.3
<b>Polyethylene, total</b>		299,491 <sup>r</sup>	289,910	287,614	-0.8	-4.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	6,913	x	x	x	x
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	5,649	5,315	5,158	-3.0	-8.7

1. SCG: Standard Classification of Goods.

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

Product	SCG <sup>1</sup> Code	May 2007	April 2008	May 2008	Change May 2008 to April 2008	Change May 2008 to May 2007
		metric tonnes			percent	
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	10,479	11,824	12,411	5.0	18.4
Nitric acid, 100 %	2808.00.10	102,090	73,816	78,186	5.9	-23.4
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	321,055	340,708	333,759	-2.0	4.0
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	16,901	17,617	21,738	23.4	28.6
Ammonia, anhydrous, 100%	2814.10	392,390	349,145	389,817	11.6	-0.7
Ammonium nitrate, all grades	3102.30	101,286	107,276	116,139	8.3	14.7
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	20,930	16,100	x	x	x
Butylene	2901.23	25,315	16,229	14,710	-9.4	-41.9
Carbon black	2803	22,164	x	x	x	x
Chlorine	2801.10	44,766	49,078	47,947	-2.3	7.1
Ethylene	2901.21	445,905	396,427	x	x	x
Formaldehyde, 100% solids basis	2912.11	17,049	13,975	14,673	5.0	-13.9
Hydrogen peroxide, 100%	2847.00	18,587	21,022	19,180	-8.8	3.2
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	82,753	71,500	64,541	-9.7	-22.0
Sodium chlorate	2829.11	84,766	93,968	88,020	-6.3	3.8
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	50,372	54,654	54,755	0.2	8.7
Urea, all grades	3102.10	336,009	308,064	339,535	10.2	1.0
Benzene	2902.20	76,762	59,296	64,554	8.9	-15.9
Toluene	2902.30	15,190	13,848	28,293	104.3	86.3
Xylene	2902.4	22,345	x	20,106	x	-10.0
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 2007	Year-to-date May 2008	Change year-to-date 2008 over 2007
		metric tonnes		percent
<b>Synthetic resins</b>				
Polyethylene, low and linear low density	3901.10, 3901.90.10	x	797,447	x
Polyethylene, high density	3901.20	x	647,847	x
<b>Polyethylene, total</b>		1,505,800	1,445,294	-4.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	38,553	x	x
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	27,979	25,833	-7.7

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 2008 over 2007
		May 2007	May 2008	
		metric tonnes		percent
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	57,340	57,352	0.0
Nitric acid, 100 %	2808.00.10	501,596	374,333	-25.4
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	1,602,737	1,757,817	9.7
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	69,781	90,251	29.3
Ammonia, anhydrous, 100%	2814.10	1,950,258	1,936,998	-0.7
Ammonium nitrate, all grades	3102.30	521,328	533,519	2.3
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	113,217	x	x
Butylene	2901.23	105,788	82,777	-21.8
Carbon black	2803	97,188	x	x
Chlorine	2801.10	241,492	238,390	-1.3
Ethylene	2901.21	2,152,439	x	x
Formaldehyde, 100% solids basis	2912.11	79,595	73,784	-7.3
Hydrogen peroxide, 100%	2847.00	99,495	104,375	4.9
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	388,790	360,404	-7.3
Sodium chlorate	2829.11	444,117	460,662	3.7
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	272,153	268,432	-1.4
Urea, all grades	3102.10	1,648,431	1,617,928	-1.9
Benzene	2902.20	341,071	316,586	-7.2
Toluene	2902.30	93,937	110,173	17.3
Xylene	2902.4	130,174	x	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 301-0003. 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)).

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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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