

# Service bulletin

## Industrial Chemicals and Synthetic Resins



October 2008

### Highlights

- The total production of polyethylene in Canada increased 12.8% to 264,134 metric tonnes between September and October 2008.
- Monthly anhydrous ammonia production rose 3.5% to 430,761 metric tonnes.
- Production of urea decreased 0.2% to 339,014 metric tonnes in October 2008. Compared with the October 2007, production increased 4.8%.
- In October 2008, the production of sulphuric acid decreased 3.0% to 329,855 metric tonnes but compared with the same month last year, production increased 0.7%.

### Statistical tables

Table 1

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

Product	SCG <sup>1</sup> Code	October 2007	September 2008	October 2008	Change October 2008 to September 2008	Change October 2008 to October 2007
<b>Synthetic resins</b>						
Polyethylene, low and linear low density	3901.10, 3901.90.10	173,973 <sup>r</sup>	142,273	x	x	x
Polyethylene, high density	3901.20	139,846 <sup>r</sup>	91,817	x	x	x
<b>Polyethylene, total</b>		313,819 <sup>r</sup>	234,090	264,134	12.8	-15.8
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	7,389	x	x	x	x
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	5,275	3,338	4,759	42.6	-9.8

1. SCG: Standard Classification of Goods.

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

Product	SCG <sup>1</sup> Code	October 2007	September 2008	October 2008	Change October 2008 to September 2008	Change October 2008 to October 2007
		metric tonnes			percent	
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	11,690	14,200	13,419	-5.5	14.8
Nitric acid, 100 %	2808.00.10	71,734	70,369	84,002	19.4	17.1
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	327,407	339,922	329,855	-3.0	0.7
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	18,129	17,936	16,779	-6.5	-7.4
Ammonia, anhydrous, 100%	2814.10	402,726	416,384	430,761	3.5	7.0
Ammonium nitrate, all grades	3102.30	106,465	116,049	130,318	12.3	22.4
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	16,380	18,869	16,894	-10.5	3.1
Butylene	2901.23	16,958	10,340	18,262	76.6	7.7
Carbon black	2803	x	x	17,931	x	x
Chlorine	2801.10	50,534	46,434	48,650	4.8	-3.7
Ethylene	2901.21	420,071	x	x	x	x
Formaldehyde, 100% solids basis	2912.11	18,072	13,169	15,205	15.5	-15.9
Hydrogen peroxide, 100%	2847.00	19,236	21,965	20,949	-4.6	8.9
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	71,426	63,097	59,714	-5.4	-16.4
Sodium chlorate	2829.11	93,498	86,934	90,370	4.0	-3.3
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	56,540	55,558	69,329	24.8	22.6
Urea, all grades	3102.10	323,509	339,645	339,014	-0.2	4.8
Benzene	2902.20	54,619	45,288	59,768	32.0	9.4
Toluene	2902.30	12,386	12,891	16,907	31.2	36.5
Xylene	2902.4	10,849	17,762	20,883	17.6	92.5
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 October 2007	Year-to-date October 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	x	x
Polyethylene, high density	3901.20	x	x	x
<b>Polyethylene, total</b>		3,088,357	2,841,688	-8.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	70,857	x	x
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	53,304	47,126	-11.6

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 October 2007	Year-to-date October 2008	Change year-to-date 2008 over 2007
		metric tonnes		percent
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	114,403	125,364	9.6
Nitric acid, 100 %	2808.00.10	968,823	682,615	-29.5
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	3,116,368	3,429,343	10.0
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	165,148	191,482	15.9
Ammonia, anhydrous, 100%	2814.10	3,613,115	4,003,111	10.8
Ammonium nitrate, all grades	3102.30	980,551	1,049,598	7.0
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	200,720	x	x
Butylene	2901.23	213,465	165,077	-22.7
Carbon black	2803	x	x	x
Chlorine	2801.10	500,555	482,913	-3.5
Ethylene	2901.21	4,196,885	x	x
Formaldehyde, 100% solids basis	2912.11	163,935	148,119	-9.6
Hydrogen peroxide, 100%	2847.00	200,104	209,035	4.5
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	768,588	669,413	-12.9
Sodium chlorate	2829.11	889,494	916,184	3.0
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	563,434	561,009	-0.4
Urea, all grades	3102.10	2,911,808	3,216,915	10.5
Benzene	2902.20	653,946	607,161	-7.2
Toluene	2902.30	172,662	209,399	21.3
Xylene	2902.4	x	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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