



## Service bulletin

# Industrial Chemicals and Synthetic Resins



February 2008

### Highlights

- The total production of polyethylene decreased 12.3% to 271,988 metric tonnes, between January and February 2008.
- In February 2008, ethylene production declined 1.6% to 418,320 metric tonnes.
- Monthly anhydrous ammonia production dropped 11.9% to 367,664 metric tonnes.
- Production of urea fell 9.1% to 308,246 metric tonnes in February 2008. Compared with the February 2007, production rose 9.2%.
- In February 2008, the production of sulphuric acid decreased 8.7% to 337,514 metric tonnes but compared with the same month last year, production climbed 21.4%.

### Statistical tables

Table 1

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

Product	SCG <sup>1</sup> Code	February 2007	January 2008	February 2008	Change February 2008 to January 2008	Change February 2008 to February 2007
		metric tonnes			percent	
<b>Synthetic resins</b>						
Polyethylene, low and linear low density	3901.10, 3901.90.10	153,624 <sup>r</sup>	170,525	161,119	-5.5	4.9
Polyethylene, high density	3901.20	115,763 <sup>r</sup>	139,630	110,869	-20.6	-4.2
<b>Polyethylene, total</b>		269,387 <sup>r</sup>	310,155	271,988	-12.3	1.0
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	6,612	x	x	x	x
Polyvinyl chloride	3904.10	x	x	x	x	x
Polyesters, unsaturated	3907.91	5,251	4,992	5,065	1.5	-3.5

1. SCG: Standard Classification of Goods.

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

Product	SCG <sup>1</sup> Code	February 2007	January 2008	February 2008	Change February 2008 to January 2008	Change February 2008 to February 2007
		metric tonnes			percent	
<b>Acids</b>						
Hydrochloric (muriatic) acid, 100%	2806.10.20	10,436	11,391	10,458	-8.2	0.2
Nitric acid, 100 %	2808.00.10	100,364	84,058	72,481	-13.8	-27.8
Phosphoric acid, wet process	2809.20	x	x	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	278,104	369,693	337,514	-8.7	21.4
<b>Other Industrial Chemical Products</b>						
Aluminum sulphate (alum)	2833.22	11,503	17,174	17,387	1.2	51.2
Ammonia, anhydrous, 100%	2814.10	351,071	417,218	367,664	-11.9	4.7
Ammonium nitrate, all grades	3102.30	112,510	111,927	101,906	-9.0	-9.4
Ammonium phosphate, all grades	3105.30	x	x	x	x	x
Butadiene	2901.24.10	22,031	14,026	16,067	14.6	-27.1
Butylene	2901.23	17,250	16,562	16,972	2.5	-1.6
Carbon black	2803	17,842	16,904	16,140	-4.5	-9.5
Chlorine	2801.10	46,192	47,982	46,379	-3.3	0.4
Ethylene	2901.21	397,485	424,993	418,320	-1.6	5.2
Formaldehyde, 100% solids basis	2912.11	14,153	16,087	14,609	-9.2	3.2
Hydrogen peroxide, 100%	2847.00	20,085	21,466	20,623	-3.9	2.7
Methyl alcohol (methanol)	2905.11	x	x	x	x	x
Propylene, as propylene in all grades	2901.22	65,501	74,266	71,148	-4.2	8.6
Sodium chlorate	2829.11	83,298	94,567	89,600	-5.3	7.6
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	52,330	53,509	52,709	-1.5	0.7
Urea, all grades	3102.10	282,250	339,079	308,246	-9.1	9.2
Benzene	2902.20	56,772	65,884	61,062	-7.3	7.6
Toluene	2902.30	14,680	22,531	24,831	10.2	69.1
Xylene	2902.4	23,533	29,269	32,005	9.3	36.0
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 February 2007	Year-to-date February 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	331,644	x
Polyethylene, high density	3901.20	x	250,499	x
<b>Polyethylene, total</b>		582,698	582,143	-0.1
Polystyrene and acrylonitrile-butadiene-styrene (abs)	3903.1, 3903.30	16,177	x	x
Polyvinyl chloride	3904.10	x	x	x
Polyesters, unsaturated	3907.91	11,305	10,057	-11.0

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 February 2007	Year-to-date February 2008	Change year-to-date 2008 over 2007
		metric tonnes		percent
<b>Acids</b>				
Hydrochloric (muriatic) acid, 100%	2806.10.20	22,019	21,849	-0.8
Nitric acid, 100 %	2808.00.10	192,451	156,539	-18.7
Phosphoric acid, wet process	2809.20	x	x	x
Sulphuric acid, all grades, including oleum, as 100%	2807	629,648	707,207	12.3
<b>Other industrial chemical products</b>				
Aluminum sulphate (alum)	2833.22	24,620	34,561	40.4
Ammonia, anhydrous, 100%	2814.10	771,610	784,882	1.7
Ammonium nitrate, all grades	3102.30	203,191	213,833	5.2
Ammonium phosphate, all grades	3105.30	x	x	x
Butadiene	2901.24.10	46,360	30,093	-35.1
Butylene	2901.23	36,684	33,534	-8.6
Carbon black	2803	36,421	33,044	-9.3
Chlorine	2801.10	97,063	94,361	-2.8
Ethylene	2901.21	827,355	843,313	1.9
Formaldehyde, 100% solids basis	2912.11	28,987	30,696	5.9
Hydrogen peroxide, 100%	2847.00	40,849	42,089	3.0
Methyl alcohol (methanol)	2905.11	x	x	x
Propylene, as propylene in all grades	2901.22	147,623	145,414	-1.5
Sodium chlorate	2829.11	175,926	184,167	4.7
Sodium hydroxide (caustic soda), as 100% NaOH	2815.1	109,540	106,218	-3.0
Urea, all grades	3102.10	629,908	647,325	2.8
Benzene	2902.20	117,376	126,946	8.2
Toluene	2902.30	41,488	47,362	14.2
Xylene	2902.4	57,173	61,274	7.2
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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