

In this period too there was consolidation within the industry through the merger of smaller units to form such concerns as Canadian Industries, Limited, and Shawinigan Chemicals, Limited. There was remarkable progress also in technical skill, in research, and in the training of personnel. When the Second World War broke upon the world, the industry was well fitted in these essentials to undertake the tremendous responsibilities that were to be faced.

In the transformation of Canadian industry for war production, probably no aspect was more important or more spectacular than the explosives and chemicals program. Before the outbreak of hostilities, the explosives industry in this country was occupied almost entirely on ordinary commercial requirements, and consequently the chemical industry lacked facilities to feed a large-scale munitions output. In October, 1939, under the Defence Purchasing Board, the future Chemicals and Explosives Branch of the Department of Munitions and Supply was set up to expand explosives production and to place the chemical industry on a parallel course of development. Soon great plants mushroomed up in every part of the country as three score separate projects involving expenditures of more than \$160,000,000 were undertaken, some being extensions and others entirely new works—some for explosives, some for shell filling, some for grenades, fuse powders and pyrotechnics, but about one-half for special chemicals required in the over-all program. It is estimated that the production of chemicals in Canada expanded threefold during the Second World War and reached a total value in 1944 of \$110,000,000.

With the end of hostilities some of these works were closed or dismantled but a number have been taken over by private concerns and have become part of the post-war industry. In 1948, the industry stands as one of the nation's leading activities. It supplies about 70 p.c. of the country's chemical needs, and in addition makes a substantial contribution to export trade. It has buildings and capital equipment valued at \$120,000,000, employs 10,000 people, and annually distributes \$18,000,000 for salaries and wages, and \$40,000,000 for materials, fuel and power. It includes some of the largest industrial establishments in Canada.

A few large concerns dominate the heavy chemical field of manufacture. First in value and diversity of output is the Canadian Industries, Limited, which has a chain of plants across the country. This Company, which is also dominant in the manufacture of allied lines, such as paints, fertilizers, cellophane, nylon, explosives, etc., is linked commercially with the E. I. Dupont de Nemours and Company, and the Imperial Chemical Industries, Limited, prominent chemical firms in the United States and in the United Kingdom, respectively. Other major producers in Canada are the North American Cyanamid, Limited; the Shawinigan Chemicals, Limited; the Consolidated Mining and Smelting Company of Canada, Limited; the Brunner-Mond Canada, Limited; the Nichols Chemical Company, Limited; the Electric Reduction Company of Canada, Limited; and the Dow Chemical Company of Canada, Limited. Two score or more smaller concerns complete the list.

*Special War Chemicals*—Among the special wartime developments of the chemical industry were the following: the manufacture of carbamate, an important requirement for use as a stabilizer and plasticizer in cordite, was begun in 1941 by Defence Industries, Limited, at Windsor, Ont. This project in turn necessitated a steady supply of monoethylaniline, an essential ingredient, so its manufacture was undertaken in 1941 by Shawinigan Chemicals, Limited, in a Government-