

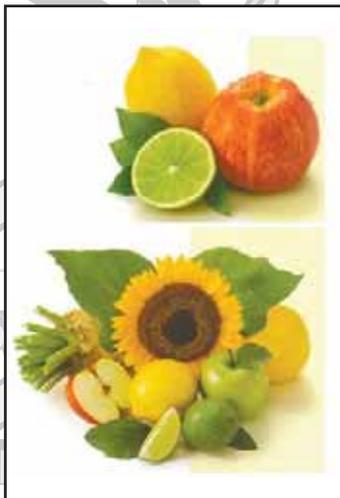
## «SUM OF TECHNOLOGIES» LTD.



The Company “Sum of Technologies” was established in Ukraine in 1992, and its main activities involve the development and manufacturing of pectin-vitamin preparations for medical applications—characterized as prophylaxes, i.e. the so-called biologically active supplements (BAS). The physical and chemical properties of the required raw materials, pectin, and pectin compositions are being studied of the Taras Shevchenko National University. Production technologies have been developed by the National University for Food Technologies, while normative documentation relevant to the medical application of these preparations was prepared by the Institute for Occupational Health of the Academy of Medical Sciences of Ukraine.

Currently in Ukraine about 7% of the workforce is exposed to harmful substances that arise from various technical processes or when working in hazardous conditions. An analysis occupational diseases precursors has shown that approximately 140 occupational factors exceeding maximum allowable levels (including about 100 chemicals) can cause combined action. In 1997 the UNEP Council came to the conclusion that international cooperation is necessary to help decrease the risk to human health and the environment from twelve persistent organic pollutants (POPs), including PCBs, dioxines, HCB, heptachlor, DDT etc. Heavy metals and radionuclides are also among the primary pollutants identified in Ukraine. As a result of the Chornobyl Accident, certain areas of Ukraine are considered among the most highly-contaminated regions in the world, which necessitates the development of natural means for protecting the population from harmful substances.

The development of universal prophylactic is resolved by means by employing components effective against particular xenobiotics. It is for this reason that several measures directed at reducing the negative influence of chemical substances on human pectin preventive treatment receives special consideration. Its efficacy has



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been proven by numerous investigations of different occupational categories in which personnel may be exposed to heavy metals (mercury, lead, cadmium), radionuclides, POPs (organic solvents, vulcanization agents, chlororganic pesticides), as well as pregnant women and children who reside in highly polluted regions. Pectin represents one of the most convenient and effective preparations to counter effects arising from exposure to toxic substances, and is recognized throughout the world because its simplicity is predetermined by normal biological processes.

Our company has developed highly-effective pectin compositions selective towards different xenobiotics. Combinations of various pectins, i.e. sugar-beet, apple, pumpkin or carrot with different functional characteristics, have permitted us to reach a unique pectin composition enhanced by a vitamin complex. One of pectin preparations (Ukrainian standard TY Y 15.8-16475490.001-2001) has been developed by National Taras Shevchenko University and Institute for Occupational Health is produced by "Sum of Technologies Ltd." at first "Vitamins" (Uman), Kyiv Confectionary factory, Dnipropetrovsk food factory and is used in Ukraine and other countries (Russia, Belarus). Currently about 600,000 doses have been produced and used for medical purposes.

- Production is in compliance with international quality standards, meeting the requirements of both domestic and foreign consumers in the confectionary, catering and pharmaceutical industries, as well as in cosmetics.
- Our company utilizes Ukrainian raw materials in the production process. Agricultural producers located near our facilities supply large volumes of raw materials, which reduces transport costs significantly. Our only competitors are overseas.
- Grow in demand from the catering industry suggests a promising future for overall sales as well.
- The technology involves use of the aqueous solutions of organic acids after demineralization.
- The principal advantage of this technology is that pectin is produced without the use of either strong acids or alkalis in extraction and hydrolysis processes.

