

The data from the second generation of catalysts are not all available as yet, as these are still being tested on vehicles and the mileage accumulation is continuing (see Table VII).

In the single case where the analysis is available (catalyst M-177B, after 12,000 miles, Table VIII), there is still an apparent loss of ruthenium. This qualification is associated with the fact that no analysis is run on a fresh catalyst and the nominal intended loading can be different from the actual loading. It is, however, realised that the achieved degree of stabilisation can still be substantially improved, while mastering the technique of catalyst preparation. Further improvements can be expected by minimising the opportunities for phase separation during repeated oxy-reduction of the catalyst. This will mainly be achieved by ruthenium dilution and smaller particle-size distribution. On the other hand, better control of the air/fuel ratio in the operation of the vehicle system should also minimise the loss of ruthenium.

Another area currently under intensive investigation is the poisoning of the ruthenium-containing catalysts in the environment exhaust. A detailed effort using the techniques used previously in the poisoning studies of oxidation catalysts (14) is in progress.

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Russian Progress in Platinum Chemistry

The centenary of Lev Aleksandrovich Chugaev (*Platinum Metals Review*, 1973, **17**, (4), 144-148), was the occasion for numerous biographical articles in the Russian scientific press. However, one of the most interesting manifestations was the October 1973 issue of *Zhurnal Neorganicheskoi Khimii*. This was entirely devoted, apart from a valedictory article on Chugaev, to papers on coordination chemistry in celebration of the anniversary.

Russian chemists have for years published more contributions in this field than has any other nation, and the Russian Journal of Inorganic Chemistry, to give its translated title, publishes several articles on the chemistry of the platinum metals every month. In this issue 13 of the 44 articles on coordina-

tion chemistry deal with the platinum metals.

Three papers from the Novosibirsk State University concern platinum(II) complexes with norleucine, platinum(II) chelates with glycylglycine, and optical activity of platinum (II) complexes with mono- and bidentate L-proline. Two papers from the Leningrad Technical Institute concern platinum(II) complexes with hydrogen sulphide, and with *N*-methylhydroxylamine. Two from the Moscow Institute of Fine Chemical Technology deal with hydrolysis of pentahalooxocomplexes of nitrosoruthenium, and with tert-phosphonium iridium salts. The remaining six papers originate at six other separate universities and institutes, showing the wide interest in this subject in the U.S.S.R.