

Research Group



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Fluorite Market Research in the CIS

Sample PDF

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Introduction

The given research deals with the analysis of the market of fluorite in the CIS countries.

Fluorite (or fluorspar) poses the basic natural mineral of fluorine, it contains 51,2% of Ca and 48,8 % of F. Fluorite as a concentrate is used mainly in metallurgy - as a flux, in the chemical industry for fluorine acid production; in nonferrous metallurgy - for artificial cryolite production, necessary in the process electrolytic aluminum production. The present paper includes the following main sections: the brief description of the world fluorite market conjuncture, fluorspar reserves and deposits, its extraction and manufacture in the CIS, "know-how" and requirements to quality of a commodity product; state of the basic enterprises - fluorite manufacturers, foreign trade operations with fluorspar; of fluorite consumption in the RF/CIS.

Methodologically work was carried out mainly by the method of "armchair" researches - the analysis and processing of the **FSSS** materials of the Russian Federation, the Joint Stock Company "RDzD" (statistics of rail transportation), FCS of the Russian Federation (customs statistics), and also the given enterprises, the "Infomine" base, mass-media materials. To confirm the obtained data selective telephone polling of the experts of some the enterprises were made.

All this has allowed the "Infomine" experts to reveal features and prospects of the fluorite market in the CIS countries, to forecast its development till 2010.

1. Brief characteristic of the world fluorite market state

By the data of the U. S. Geological Survey (USGS), the confirmed fluorite reserves in the world now make up above 200 million t, the basic volume falls on Mexico, China, the republic of South Africa and Mongolia (Tab. 1).

Table 1: Fluorite reserves and production in the world

Country	Reserves, million t	Production, thousand t	
		2004	2005
Spain	6	140	140
Kenya	2	108	110
China	21	2700	2700
Morocco	...	81	85
Mexico	32	808	750
Mongolia	12	295	350
Namibia	3	105	112
Russia	...	170	170
France	10	90	95
The Republic of South Africa	41	275	275
Other	110	290	290
Total	237	5062	5077

... - no data

Source: U. S. Geological Survey

World production of fluorspar in the 5 latest years was within the limits of 4,5-5,1 million t, and in 2004-05 - practically at one and the same level, a bit more than 5 million t.

The basic producer of fluorspar unconditionally is China, which share is over 50 % of all the world production. More than 1000 small mines and 120 concentrating factories operate in China, the largest enterprise is the concentrating complex owned by the Yong Feng Fluorspar Company (a province of Jiangxi).

Mexico, Mongolia and the republic of South Africa should also be included in the number of large manufacturers. The Essential increase of fluorspar manufacture in Mexico is a characteristic feature of the present moment, it made up about 170 thousand t for the period since 2000 up to 2005. The total share of Mongolia and the republic of South Africa is stably maintained at a level of 10-13 % during the latest 10 years.

It should be mentioned also the full discontinuance of fluorite production in the USA in 2004, this state belongs now to the category of large importers.

The basic volume of fluorite in the world is consumed in the fluorite acid (58%) production; in manufacture of steel and aluminum 27% and 12% are used accordingly. The share of other consumption spheres is about 3%. Due to economy of resources reduction of fluorine specific consumption is observed in the developed countries. For example, fluorite consumption in steel smelting has decreased from 1,4 down to 0,5 kg/t in 10 latest years. Refusal under national ecological requirements from freons manufacture also leads to decrease in consumption of fluorite raw material in this sphere.

Global consumption of fluorite acid has already reached the level of 650 thousand t per year and continues to grow. In the USA fluorite acid production consumes about 80 % of imported fluorite; other 20 % go to steel manufacture and other branches.

As to the leader of the manufacturers market it should be noted - manufacture rates of fluorite acid production in China have been rapidly increasing that gave rise to fluorspar consumption increases. Because of it, and also because of introduction of more rigid rules of fluorite export, the tendency of some reduction of Chinese fluorspar export volume was registered.

The current price for the Chinese fluorite makes (on condition CIF US Gulf Port) 230-240 dollars /t, the fluorite of the republic of South Africa (FOB Durban) - 160-190 dollars / t, on fluorite from Mexico (FOB Tampico) - 130-160 dollars/t.

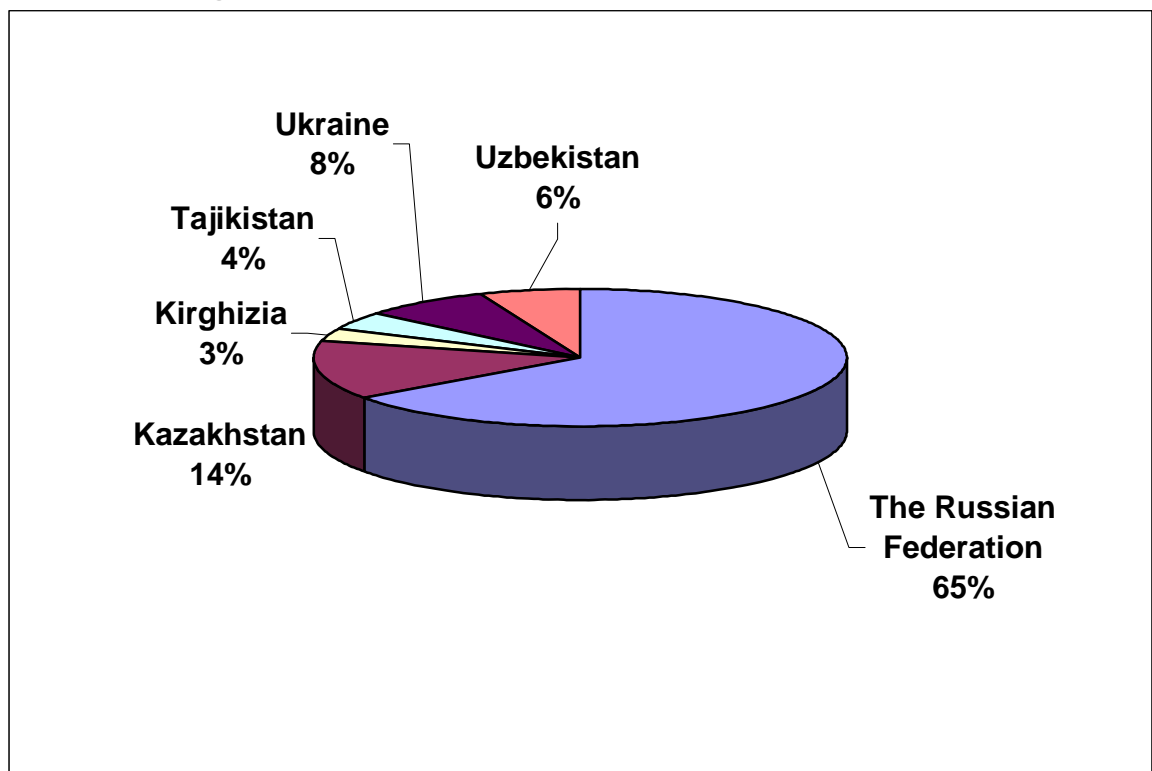
2. Fluorite reserves and deposits in the CIS

By "Infomine" rating, fluorite reserves in the CIS countries make up 160 million t of ores.

Fluorite deposits have been reconnoitered in Russia, Ukraine, Kazakhstan, Uzbekistan, and Kyrgyzstan, Tajikistan. The basic volume of CIS fluorspar reserves falls on Russia - about 65 % (Fig. 1).

Balance stocks of fluorite in the CIS include 43 deposits, 35 of them – proper fluorite, 8 - complex fluorite -containing.

Figure 1: Fluorite reserves structure in the CIS, %



Source: «Infomine» data

Balance fluorite reserves in Russia include 35 deposits, 29 of them - in the true sense fluorite and 6 - complex. The average fluorspar content of Russia deposits is low enough and makes up 39% (abroad this parameter - 45%).

The basic volume of fluorite reserves (subject to complex fluorite-containing ores) is located in the eastern regions of Russia - the Far East (42%) and Siberian (33%) districts. Thus in the regions the leaders are: Primorsky Krai (about 27% of all fluorspar reserves of Russia), Chita area (about 23%) and Republic Buryatiya (10%).

The basic reserves of fluorite fall on 7 deposits: Narabskoye, Egetynskoye (Republic Buryatiya), Usuglinskote, Garsonuyskoye, Urtuyskoye (Chita area), Voznesenskoye and Pogranychny (Primorsky Krai). Location of these deposits is shown on Fig. 2. All of them, by the way, except for Narabskoye, deposit, belong to a workable category (Tab. 2).

The largest fluorite deposits in the CIS are Pogranychny and Voznesenskoye Pogranychny (Russia, Primorsky Krai). Their share is about 27% of fluorite ore and 44% of fluorspar reserves of Russia. Ores reserves of the Pogranychny deposit make up about 19 million t, the fluorite content in ores of the given deposit makes up from 31,0% up to 48,4%. Ores reserves of the Voznesenskoye deposit make up about 13,5 million t, the fluorite content in ore makes up from 32,6 % up to 37,1%.

The Voznesenskoye deposit is represented by the powerful network of the size 1000x200 m of complex form with amount of inclination 60-70o into depth down to absolute altitude mark - 350 m. The deposit is bound to zones of numerous multidirectional tectonic intervened dislocations in limestone which happened to be favorable environment for active display of metasomatic processes with formation of mica-fluorite ores.

The Pogranychny deposit is represented by blanketlike heavy pitching ore deposit with the maximum capacity of the deposit of 300 m, extent of 600 m and maximum depth down to 800 m.

Besides the above mentioned regions proper fluorite ores are characteristic for Republic Bashkortostan. At present **the Suranskoye deposit** located in area is the one that was explored most of all.

Complementary to proper fluorite ores there is a great volume of reserves that falls on complex raw materials. They are fluorite - beryl ores of the Boevskoye deposit (Sverdlovsk area), Yemakobskoye, Auniskoye, (Republic Buryatiya); fluorite - tin - tungsten ore of the Levo-Ingodinskoye deposits (Chita area), the rare metals - fluorite - iron ore deposit Karasukskoye (Republic Tuva), etc. The fluorite content in complex ores makes up from 5 up to 23%. All of them now are not developed.

It should be mentioned that fluorite raw-material base of Russia is characterized by typically low ore quality and disadvantageous geographical location (remoteness from the basic consumers). In experts' opinion of experts there is no large deposit with high-quality ores in Russia.