

Gallium

The following is USGS information on gallium for 2001, adapted by USGS gallium commodity specialist Deborah Kramer from the USGS Mineral Commodity Summaries 2002.

Gallium occurs in very small concentrations in many rocks and ores of other metals. Most gallium is produced as a byproduct of treating bauxite, and the remainder is produced from zinc-processing residues. The world bauxite reserve base is so large that much of it will not be mined for many decades. Hence, most of the gallium in the bauxite reserve base cannot be considered available in the short term. Gallium arsenide is capable of converting electricity directly into coherent light, making it a key component in light emitting diodes and cellular telephone products. More than 95 percent of U.S. gallium consumption was in the form of gallium arsenide.

The 2001 overall economic decline in the United States resulted in lower demand for gallium compared to the record-high levels of 2000. The decline in the purchase of cell-phone products was the largest reason for this decrease. As the gallium demand declined during 2001, the extremely high prices caused by reduced supplies also dropped until they reached normal levels by midyear.

U.S. gallium demand was met by imports, primarily high-purity material from France and low-purity material from China and Russia. The drop in gallium consumption also reduced imports by about 31 percent from those in 2000.

Estimated crude gallium production worldwide was 81 metric tons in 2001. Principal world producers were China, Germany, Japan, Kazakhstan and Russia.

Originally published as *Geotimes* Mineral Resource of the Month, September 2002
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Elemental gallium does not occur in nature, but occurs in trace amounts in bauxite (shown here) and in other ores. Image from *Minerals in Your World*.