Dolomite

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Dolomite is an anhydrous carbonate mineral composed of calcium magnesium carbonate, ideally $CaMg(CO_3)_2$.

The term is also used for a sedimentary carbonate rock composed mostly of the mineral dolomite.

Uses of Dolomite

- Construction Industry

- As a Flux in the Production of Steel and Pig Iron.
- As a Sintering Agent in Steel Industry to process Iron Ore.
- As Dimension Stone, Cement Manufacture, for Road Aggregate, Making natural cement, Manufacture of Magnesium and Dolomite Refractories.
- Production of Glass and Ceramics.
- Serves as an Oil and Gas Reservoir rock.

Dolomite in Jordan

Dolomite ($CaMgCO_3$) is a sedimentary rock occurs as a sedimentary deposit similar in nature to limestone. Most dolomite deposits are as a result of replacement of Mg instead of Ca during the recrystallization of limestone, whereas some dolomite precipitates directly from sea water. The dolomite rocks contain more than 50% of both calcite and dolomite minerals in which dolomite is more abundant than calcite.

Theoretically, pure dolomite contains: CaO: 30.4%, MgO: 21.8%, CO_2: 47.8%.

Impurities in dolomite include clay minerals and chert.

The uses of dolomite are classified as follows:-

- Direct applications of dolomite (agriculture, cement mortar, and treatment of cracks),
- Uses of selectively calcined dolomite (produce, magnesium oxychloride cement, magnesium oxysulphate cement, inorganic magnesia foams, and silicate bricks)
- Chemicals from dolomite (magnesium oxide, magnesium hydrooxide, magnesium carbonate).

Geological Setting

Dolomite occurs in rocks of all ages, and is generally associated with limestone. In general, dolomite can be found throughout Jordan in the Cambrian Burj Dolomite Shale Formation and the Cretaceous Naur, Hummar and Wadi As-Sir formations. Dolomites that occur in Wadi I'sal and Al-Haditha areas belong to the Wadi As-Sir formation (Turonian).

Location and Reserve

Province	Area	Location	Reserve (mt)
Karak	Wadi I'sal and Ahemir I'sal	30km west of Karak	62
	Al-Haditha area	25 km west of Karak	20
Ma'an	Ras An Naqab	70 km NE of Aqaba	80

Chemical Properties

	Wadi I'sal and Ahemir I'sal	Al-Haditha area	Ras An Naqab (Av.)
MgO %	1.77 – **18.98**	1.74 – **20.2**	**19.06**
SiO_2 %	0.95 – 6.44	0.45 – 24.2	2.6
CaO %	31.1 – 46.7	21.5 – 50.9	35.06
Fe_2O_3 %	0.12 – 1.36	0.10 – 3.57	0.69

Mineralogical Properties

Al-Haditha area:

The dolomites of this area mainly consist of dolomite and calcite with minor amount of Gypsum, Quartz and Kaolinite.

Investment Opportunities

Currently, there is no exploitation of dolomite, but the mineral can be used for the following industries:

- **Glass Industry:** as the dolomite one of the main raw material and form 5 – 10% of glass industry.

- **Ceramic industry**: Dolomite can be used in high thermal resistance ceramic, this is an investment opportunity for uses the dolomite in this industry in Jordan.

Note: For More Information and inquiry can be contacted at the following address:

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