

## Nitrates

The Nitrates being largely soluble in water play but an unimportant rôle in Mineralogy.

### SODA NITER.

Rhombohedral. Axis  $c = 0.8276$ ;  $rr'' 10\bar{1}1 \wedge \bar{1}101 = 73^\circ 30'$ . Homœomorphous with calcite. Usually massive form, as an incrustation or in beds.

Cleavage:  $r (10\bar{1}1)$  perfect. Fracture conchoidal, seldom observable. Rather sectile.  $H. = 1.5-2$ .  $G. = 2.24-2.29$ . Luster vitreous. Color white; also reddish brown, gray and lemon-yellow. Transparent. Taste cooling. Optically -.  $\omega = 1.5874$ ,  $\epsilon = 1.3361$ .

**Comp.** — Sodium nitrate,  $\text{NaNO}_3 =$  Nitrogen pentoxide 63.5, soda 36.5 = 100.

**Pyr., etc.** — Deflagrates on charcoal with less violence than niter, causing a yellow light, and also deliquesces. Colors the flame intensely yellow. Dissolves in three parts of water at  $60^\circ \text{F}$ .

**Obs.** — From Tarapaca, northern Chile, and also the neighboring parts of Bolivia; also in Humboldt Co., Nev.; near Calico, San Bernardino Co., Cal.

**Use.** — A source of nitrates. The deposits in Chile are of great importance.

**Niter.** Potassium nitrate,  $\text{KNO}_3$ . Orthorhombic.  $\beta = 1.505$ . In thin white crusts and silky tufts.

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**Nitrocalcite.** Hydrous calcium nitrate,  $\text{Ca}(\text{NO}_3)_2 \cdot n\text{H}_2\text{O}$ . In efflorescent silky tufts and masses. In many limestone caverns, as those of Kentucky.

**Nitromagnesite.**  $\text{Mg}(\text{NO}_3)_2 \cdot n\text{H}_2\text{O}$ . In efflorescences in limestone caves.

**Nitrobarite.** Barium nitrate,  $\text{Ba}(\text{NO}_3)_2$ . Isometric-tetartohedral.  $n = 1.57$ . From Chile.

**Gerhardtite.** Basic cupric nitrate,  $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{Cu}(\text{OH})_2$ . In pyramidal orthorhombic crystals.  $G. = 3.426$ . Color emerald-green.  $\beta = 1.713$ . From the copper mines at Jerome, Ariz.

**Darapskite.**  $\text{NaNO}_3 \cdot \text{Na}_2\text{SO}_4 \cdot \text{H}_2\text{O}$ . Monoclinic. In square tabular crystals. Colorless. From Atacama, Chile.

**Nitroglauberite.**  $6\text{NaNO}_3 \cdot 2\text{Na}_2\text{SO}_4 \cdot 3\text{H}_2\text{O}$ . From Atacama, Chile.

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**Lautarite.** Calcium iodate,  $\text{Ca}(\text{IO}_3)_2$ . In prismatic, monoclinic crystals, colorless to yellowish. From the sodium nitrate deposits of Atacama, Chile.

**Dietzeite.** A calcium iodo-chromate. Monoclinic; commonly fibrous or columnar.  $H. = 3-4$ .  $G. = 3.70$ . Color dark gold-yellow. From the same region as lautarite.