



There are 3 main types of cloud seeding substances used for Royal Rainmaking operation, i.e. endothermic, exothermic and cloud condensation nuclei substances. The principle of seeding materials selection is the consideration of its properties and daily atmospheric conditions.

### 1. Endothermic substances

Endothermic is the substance that can raise its temperature by absorbing heat from the surroundings. Thus, the atmospheric temperature or cloud temperature will be cooled down. At present, 2 types of endothermic substances are being used in rainmaking operation: Calcium Chloride (Formula 6) and Calcium Oxide (Formula 8).

### 2. Exothermic substances

Exothermic is the substance that reduces its internal temperature by releasing heat into the surrounding to activate or enhance the formation and growth of clouds. At present, 3 types of exothermic substances are being used in rainmaking operations: Urea (Formula 4), Ammonium Nitrate (Formula 19) and dry ice (Formula 3).

### 3. Cloud condensation nuclei substances

Cloud condensation nuclei or CCN provides the surface for water vapor molecules to condense into liquid form. At present, Sodium Chloride (formula 1) is used as CCN substance for rainmaking operation.