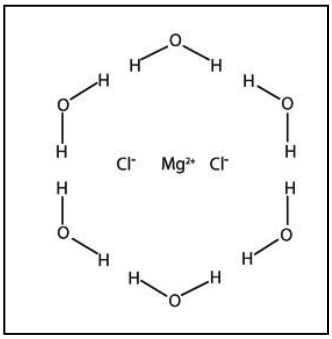
MARLESHWAR INTERNATIONAL

Magnesium chloride

Magnesium chloride is used for de-icing, dust suppression, pharmaceutical formulations, and as a mineral supplement. To make impact resistant, flame retardant and antistatic floors, in manufacture of abrasives, in textile processing and for numerous other applications.

Magnesium Chloride Hexahydrate Flakes ($MgCl_26H_2O$)	
$MgCl_26H_2O$ % by mass	98.0
Matter insoluble in water, % by mass	0.01
Sulphate (as SO4), % by mass	0.05
Calcium (as Ca), % by mass	Nil
Iron (as Fe), PPM	Nil
Heavy metals (as Pb), PPM	Nil
Boron (as B) PPM	33
Nickel (as Ni), PPM	Nil
Arsenic (as As), PPM	Nil
Acidity (as HCI), % by mass	Passes test
Alkali Chloride (as NaCL),% by mass	1.0
Ammonium Salts (as N)	0.006



Applications:

1] As a Dust Suppressant

Due to its extreme hygroscopic nature and being environmentally-friendly, it is used in many countries as a dust suppressant or dust binder on dusty roads, unpaved helipads, inside mine shafts and tunnels, open-cast iron ore and coal mines or where volcanic dust could pose a problem, in thickly wooded areas where flying dust could spoil trees etc, by using a solution or $MgCl_26H_20$ with water. Application is by simple apparatus of a tanker with a spray boom.

2] As A De-icing Compound

One of the major uses all over the world is as a de-icing compound. Being completely environmentally-friendly, it is used extensively to keep outdoor surfaces around hotels, private homes as well as roads, etc. free of ice, especially at ski-resorts in Europe, Korea and Japan. The other de-icers which have high sodium content can pollute underground water resources and destroy vegetation.

3] Hypomagnesaemia

Extensively used for the treatment of Hypomagnesaemia (Grass Tetany or Grass Staggers. Recent research has proved that this condition, mainly in cattle and sheep follows after winter when a herd is turned out to lush spring grass. Hypomagnesaemia is more noticeable in cattle grazing on pastures which have recently received a dressing of nitrogenous or potash fertilizer. By spraying a solution of magnesium chloride on grass or even directly on the animal or mixed into the cattle feed, this condition is prevented and has proved to be extremely beneficial to livestock. Magnesium Chloride being environmentally-friendly, will not damage either grasslands or the cattle.

4] Industrial Flooring
It is used in industrial floorings, ship decks, railway coach floorings, hospital floors and for aircraft hangar floors, ammunition factory floors, missile silos and underground armament factories and bunkers.

5] Medical Benefits
Magnesium Chloride is used in the manufacture of Magnesium Hydroxide $Mg(OH)_2$ for further preparation of antacids for relieving stomach ailments and ulcers.

It is proved that many of the symptoms of Parkinson's disease can be overcome with high magnesium supplementation, shaking can be prevented and rigidity eased.

6] Magnesium for the heart:
Adequate levels of magnesium are essential for the heart muscles. It was found that those who die from heart attacks have very low magnesium but high calcium levels in their heart muscles. Patients with coronary heart disease who have been treated with large amounts of magnesium survived better than those with other drug treatment. Magnesium dilates the arteries of the hearts and lowers cholesterol and fat levels

7] Impact-proof, fire-retardant, anti-static flooring:
Another major use is in the preparation of oxychloride cements (3MgO MgCl2 11H2O) which are made up in carefully balanced proportions of Magnesium Chloride and a dry mix consisting of calcined magnesium oxide (MgO) or Magnesite, with fillers and other aggregates depending upon the requirement. These cements are fast setting and form a dense stone like product of smooth texture which is very strong, impact resistant, fire retardant and non sparking (antistatic).

8] Textile Finishing
It is used directly as Magnesium Chloride Hexahydrate as a wetting agent for dressing in the textile industry.

9] Fireproofing
It is used as a fireproofing agent for impregnation of wood, especially mine timbers and specialized particle boards.

10] It is used as an additive in manufacturing fertilizers

11] It is also used to coat the insides of ore cars to prevent freezing of moist-ore in cold countries.

12] As a fire-extinguishing agent.

13] It is used in sugar and beet processing.

14] It is used in effluent treatment.

15] It is used as a humectant in the paper industry

16] Also extensively used in processing soya bean as a food additive.

17] A solution is sprayed on palm oil fruit for improved yield