



IS THERE REALLY A “SAFE” ICE MELT?

Winter is here and it won't be long before the roads, sidewalks, and driveways are covered with chemicals used to melt ice (ice melts). If dogs aren't eating them, they are at least walking through or playing in them! Ice melts pose a problem with both oral ingestion and dermal contact. There are many brands of ice melts on the market but the major ingredients are sodium chloride, potassium chloride, magnesium chloride, calcium salts (calcium carbonate, calcium magnesium acetate, and calcium chloride), and urea based products. Before suggesting a safe ice melt to a client it is critical to know information about the ice melt's ingredients.

Sodium chloride: Large ingestions of sodium chloride can lead to sodium toxicosis and a dose of 4g/kg of sodium chloride can be lethal to dogs. Mild ingestions lead only to gastrointestinal upset such as vomiting and diarrhea, but dogs eating large amounts of this type of ice melt can develop hypernatremia with central nervous system signs, dehydration, tachycardia, tachypnea, hyperthermia, and death.

Potassium chloride: Increased intake of potassium, as seen with large ingestions of potassium chloride salts, is unlikely to produce sustained hyperkalemia unless renal excretion is impaired in the dog. Potassium chloride, however, is a severe irritant and can cause gastrointestinal irritation to the point of hemorrhagic vomiting or diarrhea.

Magnesium chloride: Ingestion of ice melts containing magnesium chloride can be irritating and result in gastrointestinal upset. In addition, hypermagnesemia can occur with very large ingestions, but is unlikely to occur unless the dog has renal disease.

Calcium salts (calcium carbonate, calcium chloride, and calcium magnesium acetate): Calcium salts are the most hazardous as they are the most severe irritants of all the ingredients in ice melts. Ingestion of calcium salts can cause severe gastrointestinal signs as well as local irritation from dermal (skin and paws) contact. Large ingestions of calcium salts are unlikely to increase serum calcium concentrations because multiple other factors are needed to absorb the calcium.

Urea: Urea based ice melts are generally the ones labeled as safe for use around pets. Ingestion of urea usually leads to salivation and mild gastrointestinal irritation, but large ingestions may result in weakness, tremors, and methemoglobinemia.

All types of ice melts have a potential to be hazardous. In general, most ice melt exposures are limited to gastrointestinal upset and local dermal irritation but there is a potential for more serious, life threatening side effects. It is important to educate clients on the potential risks of exposure and inform them of proper storage and use so that exposures can be avoided.

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