

# Handling & Storage

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## Liquid Aluminum Sulfate (Alum)

*Aluminum sulfate is practically non-toxic. With the use of normal industrial handling methods, it should present no health problems. However, a few simple precautions should be observed in handling it to prevent any temporary nuisance effects.*

*Good personal hygiene, eye and skin protection are the most effective measures for assuring safe handling of alum.*

*If you follow these basic rules, you should have no difficulty in the handling and storage of aluminum sulfate.*

**Health Effects.** Alum has a familiar and characteristic astringent effect on living tissue. As the salt of a strong acid and a weak base, it yields an acidic reaction in water. Direct contact can cause irritation to moist skin, eyes, and mucous membranes. Cotton fabrics exposed to alum may deteriorate after washing.

**Personal Protective Equipment (PPE).** Generally, rubber gloves are worn when handling alum in the laboratory setting, but leather gloves are recommended around loading and unloading facilities. Alum can make rubber gloves slick, causing difficulty in gripping valve handles. Also, leather provides hands with sufficient protection against alum while giving greater protection from pinching hazards.

For eye protection, wear safety glasses with side splash guards. The improved design of safety glasses meeting ANSI Z87 standards provides adequate protection from almost all types of potential contact with alum. These safety glasses with side splash guards provide nearly the same protection as goggles, but are more comfortable for constant wear. They are, however, no substitute for splash-proof goggles in the event of a spill.

If alum should enter an eye, the eye should be flushed thoroughly with plenty of clean water for at least 15 minutes. If discomfort persists following this treatment, a physician should be consulted.

**Storage.** Do not store alum in carbon steel tanks or use ferrous metal piping, valves, and fittings. Polyethylene, stainless steel, rubber-lined, or fiberglass (made from an appropriate resin) tanks are recommended, as are stainless steel, Schedule 80 CPVC, or Teflon-lined piping, valves, and fittings. All loading / unloading lines must be securely fastened.

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