

SODIUM HYDROXIDE FACT SHEET

North Carolina Division of Public Health • Occupational and Environmental Epidemiology Branch

Chemical Information

- One of the most commonly released toxic chemicals in North Carolina.
- Also known as lye.
- White crystalline odorless solid.
- Strongly irritating.
- Very corrosive.
- Manufactured substance used to make soaps, rayon, paper, explosives, dyestuffs, and petroleum products.

Hazards Identification

Acute Exposure:

- Odor provides **no warning** of hazardous concentrations.
- Direct contact causes thermal and chemical burns.
- Can cause severe burns and permanent damage to any tissue it touches.
- Can cause skin and eye irritation.
- The extent of damage to the gastrointestinal tract may not be clear until several hours after ingestion.
- Can cause swelling of the larynx and an accumulation of fluid in the lungs if inhaled.

- Contact with 25-50 percent solutions produces immediate irritation while lower concentrated solutions may not cause immediate irritation.
- Full extent of eye damage may not be determined up to 72 hours after exposure.
- The Emergency Response Planning Guideline 1 (EPRG - 1) is 0.5 mg/m³.

Chronic Exposure:

- May lead to ulceration of the nasal passages.
- Can lead to skin inflammation.
- Ingestion may lead to perforation of the gastrointestinal tract or narrowing of esophagus.

Stability & Reactivity

- Reacts with strong acids, water and moisture to quickly release heat.
- Corrosive to most metals.
- Reacts with metals such as aluminum, lead, tin and zinc, to form hydrogen gas.
- Not compatible with oxidizing agents, chlorinated solvents, ammonia and organic materials.

Handling & Storage

- Store in tightly closed and well-ventilated container away from water and moisture.

Glossary

The American Industrial Hygiene Association (AIHA) defines Emergency Response Planning Guidelines (ERPGs) as guidelines for short-term exposures to airborne concentrations of high-priority, acutely toxic chemicals. The three ERPGs are defined as follows:

ERPG-1 – maximum airborne concentration below which is believed almost all individuals could be exposed for up to one hour without experiencing more than mild, temporary adverse health effects.

ERPG-2 – maximum airborne concentration below which is believed almost all individuals could be exposed for up to one hour without experiencing or developing serious health effects or symptoms that could impair ability to take protective action.

ERPG-3 – maximum airborne concentration below which is believed almost all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects.

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