Perchloric acid (HClO₄) is a strong mineral acid. At low temperature and concentrations (<72%), it is non-oxidizing. However, at high temperatures and concentrations (>72%), it becomes a very strong oxidizer. Organic, metallic, and inorganic salts formed from oxidation are shock sensitive and pose great fire and explosion hazards. All scientists using perchloric acid should notify EHS. It is recommended that alternatives for perchloric acid be found.

**Health Effects**

*Acute Exposure:*
Perchloric acid is highly corrosive and causes severe burns on contact with the skin, eyes, and mucous membranes. Perchloric acid vapors can be fatal if inhaled. Perchloric vapor inhalation can cause burns to the mouth, pharynx, and gastrointestinal tract.

*Chronic Exposure:*
Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain, and bronchitis.

**Emergency Procedures**
In case of eye/skin exposure, wash the area for at least 30 minutes using the safety shower/eyewash stations. Seek medical attention. In case of ingestion, give the conscious victim milk or water and consult a physician immediately (do not give an unconscious victim anything to drink). In case of inhalation, remove patient from exposure to fresh air. Administer approved oxygen supply if breathing is difficult. Seek medical attention.

**Spills and Storage**
Only clean perchloric acid spills if you have the appropriate training and equipment (call EHS for assistance). To clean a spill, neutralize it with soda ash or other neutralizing agent. Soak up the neutralized spill with an inorganic based absorbent. Put the absorbent into a sealable bag or container to remain wet. Label waste as flammable hazardous waste and call EHS. The quantities of perchloric acid kept in storage should be minimal. Perchloric acid should be stored in its original container within compatible secondary containment. It should be separate from other chemicals, but may be stored with other inorganic acids. If a bottle containing perchloric acid has turned dark and has crystals forming around the bottom of the bottle, there is a potential explosion hazard. Do NOT move the bottle and contact EHS for assistance.