**Alkalis**

Examples: sodium or ammonium hydroxide, sodium carbonate, calcium oxide

Alkaline agents work by saponifying lipids within the envelopes of microorganisms. The activity of alkali compounds is slow but can be increased by raising the temperature. Alkalis have good microbicidal properties, but are very corrosive agents and personal protection precautions should be observed.

**Sodium hydroxide** (lye, caustic soda, soda ash) is a strong alkali used to disinfect buildings but is highly caustic. Protective clothing, rubber gloves, and safety glasses should be worn when mixing and applying the chemical. Lye should always be carefully added to water. Never pour water into lye; a very violent reaction will occur as well as the production of high heat that can melt plastic containers. Sodium hydroxide is corrosive for metals. It is considered an effective FMD disinfectant.

**Ammonium hydroxide** is an effective disinfectant against coccidial oocysts however strong solutions emit intense and pungent fumes.This substance is not considered effective against most bacteria. General disinfection should follow the use of this compound.

Sodium carbonate (soda ash, washing soda) has been used in a hot solution (180oF) for disinfecting buildings, which have housed animals with FMD. It is more effective as a cleanser than a disinfectant since it lacks efficacy against some bacteria and most viruses. A 4% solution has been listed as an approved chemical for the FMD virus. It has poor activity in the presence of organic material and can be deactivated by hard water. It can be irritating and requires protective clothing and is harmful to aquatic life.

**Calcium oxide** (quicklime) becomes lime wash when mixed with water. This has bactericidal effects on some bacteria and virus and is sometimes spread on the ground following depopulation of infected premises and has also been used to retard putrefaction of buried carcasses after depopulation. It is not very effective against the FMD virus.