### Chemical Hair Relaxing
- A process or service that rearranges the structure of curly hair into a straighter or smoother form

### Chemical Hair Structure
- Hair is made up of:
  - Protein – 90%
  - Carbon – 51%
  - Oxygen – 21%
  - Hydrogen – 6%
  - Nitrogen – 17%
  - Sulfur – 5%

### Hair Analysis
- Hair proteins are made of amino acids
- The cortex is made up of polypeptide chains
- These chains are cross-linked by side bonds
- Types of side bonds include:
  - Hydrogen bonds
  - Salt bonds
  - Disulfide bonds

### Disulfide Bonds
- Strong, chemical side bond
- Cannot be broken by water
- Can be broken by chemical hair relaxers
- Alters the shape of the hair

### Thio Relaxers
- pH factor of 10 and higher
- Thicker which helps hold hair in a straight position
- Hair softens and swells during the relaxer process and disulfide bonds are broken
- A neutralizer is used to rebuild disulfide bonds

### Hydroxide Relaxers
- Active ingredient is hydroxide ion
- Highly alkaline product ranging usually from a pH of 12-14
- Types include:
  - Sodium
  - Potassium
  - Lithium
  - Guanidine hydroxide

### Sodium Hydroxide (NaOH)
- Commonly called lye relaxers
- Most common type of hair relaxer
- Highly caustic
- pH is often over 13.5 which is highly corrosive

### Warning
- Caution is advised as relaxers can literally dissolve or melt the hair