

## Chemicals for Paper & Tissue

CULTURAL PAPER



FOOD PACKAGING PAPER



WRAPPING PAPER



TISSUE PAPER



**BROS Ingredients Limited** has extensive experience in global chemical sourcing across a full range of chemicals. We represent some of the world's leading producers of specialty ingredients in Bangladesh. Our international partnerships enable us to bring world-class paper and related solutions to the local market. Our team of specialists possesses deep expertise in developing solutions for paper, pulp, tissue, and other related applications.

### MAJOR PRODUCT LIST:

| Common Name                                                   | Chemical Name                                  | Chemical Formula                                                    | Used For                                                                              |
|---------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Agalite or Talc</b>                                        | Silicate of Magnesia                           | MgO-32%, SiO <sub>2</sub> -42%                                      | It gives paper a greasy or soapy feel. and enables it to take a high finish.          |
| <b>AKD</b>                                                    | Alkyl Ketene Dimer                             | C <sub>4</sub> H <sub>4</sub> O <sub>2</sub>                        | Sizing                                                                                |
| <b>Alabaster or Annaline</b>                                  | Anhydrate Calcium Sulfate                      | CaSO <sub>4</sub>                                                   | Paper Loading material                                                                |
| <b>Alganic Acid</b>                                           | Alganic acid or Na-Alginate                    | Na-(C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> ) <sub>n</sub>     | Coating and surface treatment                                                         |
| <b>Alum</b>                                                   | Sulfate of Alumina                             | Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> .18H <sub>2</sub> O | For alkaline sizing along with Rosin                                                  |
| <b>Albarine</b>                                               | Natural Sulfate of Lime                        | CaSO <sub>4</sub> .2H <sub>2</sub> O - 100%                         | A calcium salt that is used for a variety of purposes including: building materials.  |
| <b>Animal Glue</b>                                            |                                                |                                                                     | Pigment coating Binder                                                                |
| <b>Barium Carbonate</b>                                       | Barium Carbonate                               | BaCO <sub>3</sub>                                                   | Coating Pigment                                                                       |
| <b>Blanc fixe, fast white, pearl white or permanent white</b> | Barium Sulfate                                 | BaSO <sub>4</sub>                                                   | Filler, Coating Pigment                                                               |
| <b>Casein</b>                                                 | Casein                                         |                                                                     | Pigment coating Binder. Casein is a heterogeneous globular, amphoteric phosphoprotein |
| <b>Chlorine Dioxide</b>                                       | Chlorine Dioxide                               | ClO <sub>2</sub>                                                    | In Pulp Bleaching                                                                     |
| <b>Chlorine Gas</b>                                           | Chlorine                                       | Cl <sub>2</sub>                                                     | In Pulp Bleaching and water treatment                                                 |
| <b>Clay or Kaolin</b>                                         | Kaolinite                                      | Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>    | As filler                                                                             |
| <b>Dolomite</b>                                               | Calcium Magnesium Carbonate                    | CaMg(CO <sub>3</sub> ) <sub>2</sub>                                 | Filler, Coating                                                                       |
| <b>DTPA</b>                                                   | Diethylene Triamine Penta                      | C <sub>14</sub> H <sub>33</sub> N <sub>3</sub> O <sub>10</sub>      | Used for chelation (removal of                                                        |
| <b>EDTA</b>                                                   | Ethylene Diamine Tetra acetic Acid             | C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>8</sub>       | Used for chelation (removal of transition metals from pulp).                          |
| <b>Enzyme</b>                                                 |                                                |                                                                     | Used in Deinking                                                                      |
| <b>FSA</b>                                                    | Formamidine Sulphuric Acid or Thiourea Dioxide | CH <sub>4</sub> N <sub>2</sub> SO <sub>2</sub>                      | Post Deinking bleaching                                                               |
| <b>Guar Gum</b>                                               | Natural Polymer                                |                                                                     | Dry Strength Additive                                                                 |
| <b>Gypsum or Mineral White or Plaster</b>                     | Natural Sulfate of Lime                        | CaSO <sub>4</sub> .2H <sub>2</sub> O                                | Gypsum board                                                                          |
| <b>Hydrogen Peroxide</b>                                      | Hydrogen Peroxide                              | H <sub>2</sub> O <sub>2</sub>                                       | In Pulp Bleaching                                                                     |
| <b>Hypochlorous Acid</b>                                      | Hypochlorous Acid                              | HOCl                                                                | In Pulp Bleaching                                                                     |
| <b>Lime</b>                                                   | Calcium Oxide                                  | CaO                                                                 | Alkaline Pulping Process Chemical Recovery, Bleaching                                 |

|                                |                         |                                                                                |                                                                                                                                                |
|--------------------------------|-------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lime Stone</b>              | Calcium Carbonate       | CaCO <sub>3</sub>                                                              | To make Precipitated CaCO <sub>3</sub> , is used as Filler and in Coating                                                                      |
| <b>Magnesium Bisulfite</b>     | Magnesium Bisulfite     | Mg(HSO <sub>3</sub> ) <sub>2</sub>                                             | Used in Sulfite pulping                                                                                                                        |
| <b>Magnesite</b>               | Magnesium Carbonate     | MgCO <sub>3</sub> -100%                                                        | Filler for cigarette paper                                                                                                                     |
| <b>Milk of Lime</b>            | Calcium Hydroxide       | Ca(OH) <sub>2</sub>                                                            | For causticizing of green liquor                                                                                                               |
| <b>Milk of Magnesia</b>        | Magnesium Hydroxide     | Mg(OH) <sub>2</sub>                                                            |                                                                                                                                                |
| <b>Oxygen</b>                  | Oxygen                  | O <sub>2</sub>                                                                 | In Pulp Bleaching                                                                                                                              |
| <b>Ozone</b>                   | Ozone                   | O <sub>3</sub>                                                                 | In Pulp Bleaching                                                                                                                              |
| <b>Polyvinyl Alcohol (PVA)</b> | Polyvinyl Alcohol       | [CH <sub>2</sub> CH(OH)] <sub>n</sub>                                          | Pigment coating Binder                                                                                                                         |
| <b>Rosin</b>                   | Abietic Acid            | C <sub>19</sub> H <sub>29</sub> COOH                                           | Sizing                                                                                                                                         |
| <b>Rosin Soap</b>              | Sodium Abietate         | C <sub>19</sub> H <sub>29</sub> COONa                                          | Sizing                                                                                                                                         |
| <b>Salt Cake</b>               | Sodium Sulfate          | Na <sub>2</sub> SO <sub>4</sub> 10H <sub>2</sub> O                             | Makeup chemical in sulfate pulping chemical recovery (Na <sub>2</sub> SO <sub>4</sub> . ---Na <sub>2</sub> S)                                  |
| <b>Satin</b>                   |                         | CaO.Al <sub>2</sub> O <sub>3</sub> .3CaSO <sub>4</sub> .31H <sub>2</sub> O     | Brightly white pigment                                                                                                                         |
| <b>Soap/ Fatty Acid</b>        |                         |                                                                                | Deinking                                                                                                                                       |
| <b>Sodium Bisulfite</b>        | Sodium Bisulfite        | NaHSO <sub>3</sub>                                                             | Used in Sulfite pulping                                                                                                                        |
| <b>Soda Ash</b>                | Sodium Carbonate        | NaHSO <sub>3</sub>                                                             | Makeup chemical in alkaline pulping chemical recovery (Na <sub>2</sub> CO <sub>3</sub> +Ca(OH) <sub>2</sub> -<br>-<br>-2NaOH+CaCO <sub>3</sub> |
| <b>Sodium Aluminate</b>        | Sodium Aluminate        | Na <sub>2</sub> Al <sub>2</sub> O <sub>4</sub>                                 | Used in conjunction with alum to control pH                                                                                                    |
| <b>Sodium Bisulfite</b>        | Sodium Bisulfite        | NaHSO <sub>3</sub>                                                             | An acid type cooking liquor chemical component is sometimes used to neutralize residual chlorine in the pulp during the bleaching process.     |
| <b>Sodium Chlorate</b>         | Sodium Chlorate         | NaClO <sub>3</sub>                                                             | Used to generate Chlorine Dioxide                                                                                                              |
| <b>Sodium Dithionite</b>       | Sodium Hydrosulfite     | Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub>                                  | Bleaching                                                                                                                                      |
| <b>Sodium Hypochlorite</b>     | Sodium Hypochlorite     | Na <sub>2</sub> S <sub>2</sub> O <sub>4</sub>                                  | Bleaching                                                                                                                                      |
| <b>Sodium Peroxide</b>         | Sodium Peroxide         | Na <sub>2</sub> O <sub>2</sub>                                                 | Bleaching                                                                                                                                      |
| <b>Sodium Silicate</b>         | Sodium Silicate         | Na <sub>2</sub> SiO <sub>3</sub>                                               | In wastepaper deinking for wetting, peptization, ink dispersion, peroxide stabilization.                                                       |
| <b>Sodium Sulfide</b>          | Sodium Sulfide          | Na <sub>2</sub> S                                                              | Active chemical in kraft/sulfate cooking liquor                                                                                                |
| <b>Sodium Thiosulfate</b>      | Sodium Thiosulfate      | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>                                  | Bleaching                                                                                                                                      |
| <b>Sodium tripolyphosphate</b> | Sodium tripolyphosphate | Na <sub>5</sub> P <sub>3</sub> O <sub>10</sub>                                 | Dispersant                                                                                                                                     |
| <b>Starch</b>                  | Starch                  | Comprised of glucose units linked together by oxygen bridges called glycosides | Wet and dry end additive                                                                                                                       |
| <b>Sulfur</b>                  | Sulfur                  | S                                                                              | To make HSO <sub>3</sub> for bi-sulfite pulping                                                                                                |
| <b>Surfactant</b>              |                         |                                                                                | Used in deinking, Used as debonders in fluff pulp manufacture.                                                                                 |
| <b>Titania</b>                 | Titanium Dioxide        | TiO <sub>2</sub>                                                               | Filler to increase the opacity and brightness of paper. Used in coating also.                                                                  |
| <b>Anatase</b>                 | Titanium Dioxide        | TiO <sub>2</sub>                                                               | The Grade of titanium oxide paper coating pigments which is water dispersible.                                                                 |
| <b>Zinc Hydrosulfite</b>       | Zinc Hydrosulfite       | ZnS <sub>2</sub> O <sub>4</sub>                                                | Bleaching Chemical                                                                                                                             |
| <b>Zinc Sulfide</b>            | Zinc Sulfide            | ZnS                                                                            | Pigment                                                                                                                                        |
| <b>Zinc White</b>              | Zinc Oxide              | ZnO                                                                            | Pigment                                                                                                                                        |