PERFORMANCE CHEMICALS FOR CONSTRUCTION AND PUBLIC WORKS

1. Flooring Materials
2. Polyurethane for Architectural Paints
3. Water Sealants
4. Waterproofing Agents
5. Concrete Admixtures
6. Dispersant for Manufacturing Cement Boards by Extrusion Molding
7. Foaming Agent for Foam Concrete
8. Agents for Drilling Mud
9. Waste Mud Solidification
10. Polymer Flocculants for Gravel Washing Wastewater Treatment
11. Binder for Ceramics

IMPORTANT:
Before handling these products, refer to the current Material Safety Data Sheet for recommended protective equipment, and detailed precautionary and hazards information.
1. Flooring Materials

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Principal Component (Product Form)</th>
<th>Uses and Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANPRENE C-810</td>
<td>Urethane prepolymer (Liquid)</td>
<td>SANPRENE C-810 is a one-component type moisture-curing polyurethane coating agents for wood floors. The resulting flooring excels in impact resistance, flex-resistance, water resistance and chemical resistance.</td>
</tr>
<tr>
<td>SANPRENE FLR-603</td>
<td>Urethane prepolymer (Liquid)</td>
<td>SANPRENE FLR-603 forms a film having high abrasion resistance by reacting with curing agents such as 3,3’-dichloro-4,4’-diamino diphenyl methane (MOCA)</td>
</tr>
</tbody>
</table>

2. Polyurethane for Architectural Paints

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<thead>
<tr>
<th>Product Name</th>
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<tbody>
<tr>
<td>UCOAT Products</td>
<td>Water-borne polyurethane emulsions (Liquid)</td>
<td>These products are polyurethane emulsions which are suitable as a pigment dispersing resin for paint because this product has high pigment dispersibility and also imparts toughness and water resistance to paint film.</td>
</tr>
</tbody>
</table>

3. Water Sealants

<table>
<thead>
<tr>
<th>Product Name</th>
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</thead>
<tbody>
<tr>
<td>CHEMIGUARD U-1</td>
<td>Urethane prepolymer and inorganic compound (Liquid)</td>
<td>CHEMIGUARD U-1 is a sealant for straight-web steel sheet piles. When joint parts are coated, it creates a water-tight seal that is close to perfect.</td>
</tr>
<tr>
<td>CHEMIGUARD CS-3</td>
<td>Urethane prepolymer (Paste)</td>
<td>CHEMIGUARD CS-3 is Sealant as a one component moisture-curing type contained in a cartridge. This product absorbs water, which doubles its volume, thereby filling gaps with near perfect water cutoff performance.</td>
</tr>
</tbody>
</table>

4. Waterproofing Agents

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<thead>
<tr>
<th>Product Name</th>
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<tbody>
<tr>
<td>DOUBLE COAT S System</td>
<td></td>
<td>A system composed of a main component: DOUBLE COAT S-1, a curing agent: DOUBLE COAT S-2W, and an aggregate: DOUBLE COAT S-3. The system forms a water-impermeable film that adheres firmly to concrete surfaces, preventing water from entering the main part of a concrete structure, and excels in chemical resistance.</td>
</tr>
</tbody>
</table>

5. Concrete Admixtures

<table>
<thead>
<tr>
<th>Product Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>TETRA GUARD AS-20</td>
<td></td>
<td>These products are shrinkage-reducing agents for concrete. They reduce the surface tension of water contained in concrete and prevent cracks in the finished concrete structure.</td>
</tr>
<tr>
<td>TETRA GUARD PW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Dispersant for Manufacturing Cement Boards by Extrusion Molding

<table>
<thead>
<tr>
<th>Product Name</th>
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<tbody>
<tr>
<td>LEVEFLOW EX-35</td>
<td>Methacrylate polymer (Liquid)</td>
<td>LEVEFLOW EX-35 is a dispersant for manufacturing cement boards by extrusion molding, which improves fluidity of cement. It enables cement boards to be produced with a beautiful finish at lower extrusion pressure and higher speed on extrusion molding machines.</td>
</tr>
</tbody>
</table>
### 7. Foaming Agent for Foam Concrete

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<tr>
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<tbody>
<tr>
<td>SR-1</td>
<td>Surfactant compound (Liquid)</td>
<td>SR-1 allows concrete to become lightweight by containing fine bubbles in a mixture of SR-1/water and adding cement fluid.</td>
</tr>
</tbody>
</table>

### 8. Agents for Drilling Mud

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<tbody>
<tr>
<td>SANCARRIER No.5L</td>
<td>Acrylate polymer and inorganic compound (Liquid)</td>
<td>These products are used for the diaphragm wall method, cast-in-place concrete pile method and other methods.</td>
</tr>
<tr>
<td>Super Slurry B</td>
<td>Acrylate polymer (Liquid)</td>
<td>SANCARRIER No.5L is a dispersant for bentonite mud, that prevents viscosity increase of drilling mud which occurs when cement or seawater gets mixed into the mud. Super Slurry C is used for excavated soils, that also prevents viscosity increase of drilling mud and the collapse of unstable strata. During processing, Super Slurry B can be added when the viscosity increases and Super Slurry D can be added when wall-building properties decrease.</td>
</tr>
<tr>
<td>Super Slurry C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Super Slurry D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 9. Waste Mud Solidification

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<tr>
<td>SANFRESH Products</td>
<td>Cross-linked polycrylate of super absorbent polymers (Powder)</td>
<td>These products are able to absorb 400 to 700 times as much water as their own weight due to their high water absorbency. After absorbing water and becoming gel, these products retain water even when some pressure is applied to the gel.</td>
</tr>
</tbody>
</table>

### 10. Polymer Flocculants for Gravel Washing Wastewater Treatment

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<tr>
<td>SANFLOC SW Products</td>
<td>Polyacrylamide (Powder)</td>
<td>Water-soluble linear polymers with high molecular weight. They excel in absorption of suspended particles and flocculate the fine particles into coarse flocs because there are many active groups in the molecules. They promote sedimentation of flocs; and they facilitate clarification of suspension, and filtration and dewatering of sludge.</td>
</tr>
</tbody>
</table>

### 11. Binder for Ceramics

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<thead>
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<tbody>
<tr>
<td>CB-1</td>
<td>Acrylic resin (Beads)</td>
<td>CB-1 is an acrylic resin which exhibits a high thermal decomposition, and high-molecular-weight type. It exhibits an excellent molded shape retention property and hardness of resulting ceramics. Expected applications are as binders for injection molding.</td>
</tr>
</tbody>
</table>
PRODUCT LIST

1 PERFORMANCE CHEMICALS FOR SYNTHETIC RESIN & RUBBER INDUSTRIES AND PAINT, INK & PIGMENT INDUSTRIES
   1. Curing Agents for Epoxy Resins and Epoxy Resin Enamel
   2. Pigment Dispersants (Oligomer Type)
   3. Emulsifiers for Emulsion Polymerization
   4. Stabilizer for Emulsions and Latexes
   5. Resin Modifiers
   6. Internal Antistatic Agents
   7. Mold Releasing Agents
   8. Printing Ink Binders
   9. Compounding Ingredients for Paints and Printing Inks
   10. Polyurethane Coating Materials
   11. Pigment Dispersants (Surfactant Type)
   12. Defoaming Agents
   13. Plasticizer for Polyurethane-Based Sealant

2 PERFORMANCE CHEMICALS FOR COSMETICS, PHARMACEUTICALS, DETERGENTS AND AGRICHEMICALS
   Performance Chemicals for Cosmetics
   1. Base Materials for Shampoos (Anionic Type)
   2. Base Materials for Shampoos (Amphoteric Type)
   3. Foam Stabilizers and Thickeners for Shampoos
   4. Base Materials for Body Washes
   5. Base Materials for Hair Conditioners
   6. Emulsifiers for Cosmetics
   7. Emulsifiers for Pharmaceutics
   Performance Chemicals for Pharmaceutics
   1. Tablet Binders
   2. Base Materials for Ointments
   3. Coating Agents for Tablets
   4. Germicides (Pharmaceutical Use)
   5. Other Products for Pharmaceutics
   Performance Chemicals for Detergents
   1. Base Materials for Detergents
   2. Germicides (Industrial Use)
   3. Additives for Detergents
   4. Base Materials for Household Cleaners
   5. Industrial Defoaming Agents
   Performance Chemicals for Agrichemicals
   1. Emulsifiers for Emulsifiable Concentrates
   2. Dispersants for Granule Preparations

3 PERFORMANCE CHEMICALS FOR POLYURETHANE AND POLYURETHANE-RELATED INDUSTRIES
   1. Polyether Polyls for Flexible Slabstock Polyurethane Foams
   2. Polyether Polyls for Automobile Hot Moulded Seat Cushions
   3. Polyether Polyls for Automobile High-Resilient Moulded Seat Cushions
   4. Polyether Polyls for Crushed Foams
   5. Polyether Polyls for Rigid Polyurethane Foams
   6. Polyfunctional Polyols
   7. Example of Polyurethane Foam System
   8. Polyether Polyls for CASE
   9. Prepolymers and Raw Materials for Polyurethane Elastomers
   10. Base Materials for Synthetic Leathers
   11. Water-Borne Polyurethanes for Textile Processing
   12. Polyurethane Emulsions for Adhesives
   13. Polyurethane Emulsions for Coatings

4 PERFORMANCE CHEMICALS FOR LUBRICANT INDUSTRIES AND MACHINERY & METAL PROCESSING INDUSTRIES
   1. Lubricating Oil Additives
   2. Base Materials for Polyalkylene Glycol-Type Lubricants
   3. Base Materials for Water-Soluble Quenchants
   4. Base Materials for Hydraulic Fluids
   5. Materials for Brake Fluids
   6. Rust Inhibitors
   7. Water-Soluble Cutting Fluids
   8. Emulsifiers for Metal Working Oils
   9. Base Materials for Metal Cleaners

5 PERFORMANCE CHEMICALS FOR RESOURCE EXTRACTION AND MINING INDUSTRIES
   1. Polymer Flocculants
   2. Dewatering Accelerator
   3. Cold Flow Improvers
   4. Lubricity Improver
   5. Dewaxing Aids

6 PERFORMANCE CHEMICALS FOR WASTEWATER TREATMENT
   1. Polymer Flocculants
   2. Aminoalkyl Methacrylate Monomers

8 PERFORMANCE CHEMICALS FOR CONSTRUCTION AND PUBLIC WORKS
   1. Flooring Materials
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9 ADHESIVES AND ADHESIVE-RELATED PRODUCTS
   1. Pressure-Sensitive Adhesives (Cohesive Agents)
   2. Potting Resins for Artificial Kidneys (Hollow-Fiber Type)
   3. Resins for Anti-Corrosion Paints for Automobiles (for Improving Adhesion of Paints to Electrodeposition Steel)
   4. Binders for Fiber-Finishing Agents
   5. Polyurethane Emulsion for Bonding Plastics, Cloth and Wood
   6. Binders for Glasspaper
   7. Curing Agents for Epoxy Resins

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