1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND THE COMPANY

1.1 CHEMICAL PRODUCT
   SUPERBRITE BTM 450

1.2 APPLICATION
   OPTICAL BRIGHTENER

1.3 COMPANY IDENTIFICATION
   I.C.I Pakistan Ltd.

1.4 EMERGENCY TELEPHONE
   111-100-200

2. COMPOSITION/ INFORMATION ON INGREDIENTS

2.1 CHEMICAL DESCRIPTION
   DIAMINO STILBENE DERIVATIVE, TETRA SULFO TYPE

2.2 CHEMICAL COMPOSITION
   OPTICAL BRIGHTENER POWDER.

2.3 DOES NOT CONTAIN ANY HAZARDOUS MATERIALS.
2.4 HAZARDOUS INGREDIENTS

TETRASODIUM4,4'-BIS [[4-[BIS(2-HYDROXY ETHYL)AMINO]-6-(4-SULPHONATOANILINO]-1,3,5-TRIAZIN-2-YL] AMINO][STILBENE-2,2'-DISULPHONATE]

3. HAZARDS IDENTIFICATION

PRODUCT DOES NOT HAVE ANY IDENTIFIED HAZARDS.

4. FIRST AID MEASURES

4.1 EYE CONTACT IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES, SEEK MEDICAL ATTENTION IF IRRITATION OCCURS.

4.2 SKIN CONTACT WASH WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING

4.3 INGESTION WASH MOUTH AND THROAT WITH PLENTY OF WATER. SEEK MEDICAL ATTENTION.

4.4 INHALATION REMOVE VICTIM TO FRESH AIR. SEEK MEDICAL ATTENTION IF NECESSARY.

4.5 OTHER TREAT SYMPTOMATICALLY.

5. FIRE EXTINGUISHING MEDIA

5.1 EXTINGUISHING MEDIA WATER, FOAM, CARBON DIOXIDE, AND DRY CHEMICAL POWDER TYPE EXTINGUISHERS ARE USED. USE PROTECTIVE GAS MASK IN CASE OF FUMING.

5.2 FIRE AND EXPLOSION HAZARDS PRODUCT IS NOT FLAMMABLE.

5.3 PROTECTIVE MEASURES NO SPECIAL PROTECTION REQUIRED.
6. **ACCIDENTAL RELEASE MEASURES**

6.1 PERSONAL PRECAUTIONS

USE PROTECTIVE EQUIPMENT

6.2 ENVIRONMENTAL

NONE.

6.3 CLEANING UP

CONTAIN SPILL, SMALL SPILLS MAY BE FLUSHED TO THE SEWER OR ABSORBED ON SUITABLE ABSORBENTS. LARGER SPILLS SHOULD BE COLLECTED AS LIQUID OR ABSORBED. CLEAN-UP MAY BE ACCOMPLISHED BY FLUSHING WITH WATER IF APPROPRIATE OR REMOVE CONTAMINATED SOILS, PLACE IN APPROPRIATE CONTAINERS.

7. **STORAGE AND HANDLING**

7.1 STORAGE

STORE IN A COOL AND DRY PLACE IN CLOSED CONTAINERS. DO NOT STORE IN GALVANIZED METAL CONTAINERS. KEEP ABOVE 0°C. PROVIDE VENTILATION.

7.2 RECOMMENDED SHELF LIFE

MIN. 1 YEAR.

7.3 HANDLING

HANDLE IN ACCORDANCE WITH GOOD HYGIENE PRACTISES AND USUAL SAFETY MEASURES.

8. **EXPOSURE CONTROLS/ PERSONAL PROTECTION**

8.1 EXPOSURE LIMITS

NOT ASSESSED

8.2 ENGINEERING MEASURES

NONE

8.3 PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR PROTECTION

NONE REQUIRED IN NORMAL USE OF PRODUCT

HAND PROTECTION

BUTYL RUBBER, PVC OR NEOPRENE GLOVES

EYE PROTECTION

SAFETY GLASSES OF CHEMICAL SPLASH GOGGLES.

OTHER PROTECTIVE EQUIPMENT

RUBBER APRON

OTHER REQUIREMENTS

LOCAL VENTILATION RECOMMENDED.

8.4 VENTILATION:

USE LOCALEXHAUST TO CONTROL TO RECOMMENDED
9. **PHYSICAL/ CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>9.1</th>
<th>APPEARANCE</th>
<th>OFF WHITE TO YELLOW POWDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.2</td>
<td>ODOUR</td>
<td>ODORLESS</td>
</tr>
<tr>
<td>9.3</td>
<td>PH (1%)</td>
<td>7-9</td>
</tr>
<tr>
<td>9.4</td>
<td>VISCOSITY</td>
<td>N.A</td>
</tr>
<tr>
<td>9.5</td>
<td>FREEZING POINT</td>
<td>NOT ASSESSED</td>
</tr>
<tr>
<td>9.6</td>
<td>FREEZE THAW RECOVERY</td>
<td>NOT ASSESSED</td>
</tr>
<tr>
<td>9.7</td>
<td>BOILING POINT</td>
<td>N.A</td>
</tr>
<tr>
<td>9.8</td>
<td>MELTING POINT</td>
<td>N.A</td>
</tr>
<tr>
<td>9.9</td>
<td>FLASH POINT</td>
<td>N.A</td>
</tr>
<tr>
<td>9.10</td>
<td>AUTOFLAMMABILITY</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>9.11</td>
<td>EXPLOSIVE PROPERTIES</td>
<td>NOT APPLICABLE</td>
</tr>
<tr>
<td>9.12</td>
<td>VAPOUR PRESSURE</td>
<td>NOT ASSESSED</td>
</tr>
<tr>
<td>9.13</td>
<td>VAPOUR DENSITY</td>
<td>NOT ASSESSED</td>
</tr>
<tr>
<td>9.14</td>
<td>RELATIVE DENSITY</td>
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</tr>
<tr>
<td>9.15</td>
<td>SOLUBILITY</td>
<td>DISPERSIBLE IN WATER</td>
</tr>
<tr>
<td>9.16</td>
<td>PARTITION COEFFICIENT</td>
<td>NOT ASSESSED</td>
</tr>
</tbody>
</table>

10. **STABILITY AND REACTIVITY**

| 10.1  | STABILITY       | STABLE                    |
| 10.2  | CONDITIONS TO AVOID | AVOID HIGH PRESSURE WASHING. |
| 10.3  | CHEMICALS TO AVOID | STRONG OXIDIZING AGENTS   |
| 10.4  | RECOMMENDED MATERIALS FOR EQUIPMENT | COMPATIBLE WITH MOST MATERIALS |
| 10.5  | HAZARDOUS DECOMPOSITION PRODUCTS | NONE KNOWN                |
| 10.6  | HAZARDOUS DEGRADATION PRODUCTS | NONE IF USED NORMALLY. DEGRADATION |
10.7 HAZARDOUS POLYMERIZATION WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

11.1 SHORT TERM EFFECTS

EYE CONTACT IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES, SEEK MEDICAL ATTENTION IF IRRITATION OCCURS.

SKIN CONTACT WASH WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING.

INGESTION WASH MOUTH AND THROAT WITH PLENTY OF WATER. SEEK MEDICAL ATTENTION

INHALATION REMOVE VICTIM TO FRESH AIR. SEEK MEDICAL ATTENTION IF NECESSARY

11.2 ACUTE ORAL TOXICITY LD50 (ORAL RAT) >15000 mg/kg

ACUTE DERMAL TOXICITY LD50 (DERMAL, RAT) >2000 mg/kg

SKIN IRRITATION NON-IRRITATING

EYE IRRITATION NON-IRRITATING

12. ECOLOGICAL INFORMATION

12.1 LC50 N.A

12.2 BOD N.A

12.3 COD 360 mg/g

12.4 BIODEGRADATION N.A

13. DISPOSAL CONSIDERATIONS

SMALL QUANTITIES MAY BE TREATED IN AEROBIC WASTEWATER TREATMENT SYSTEMS.

LARGER QUANTITIES MAY BE INCINERATED OR LANDFILLED AFTERSOLIDIFICATION IN PERMITTED SYSTEMS.
14. TRANSPORT INFORMATION

14.1 PACKAGING

14.2 FREIGHT CLASSIFICATIONS NOT APPLICABLE

   UN NUMBER NOT APPLICABLE
   ADR NUMBER NOT APPLICABLE
   IMDG NUMBER NOT APPLICABLE
   PACKING GROUP NOT APPLICABLE
   TERM CARD NOT APPLICABLE

TRANSPORT HAZARD INFORMATION: NOT CONSIDERED HAZARDOUS FOR TRANSPORT.

15. REGULATORY INFORMATION

15.1 CLASSIFICATION

   HAZARD SYMBOLS
   R–PHRASES
   S– PHRASES S28WASH WITHPLENTOF WATER AND SOAP UPON CONTACT WITH SKIN.

15.2 OTHER N.A

16. OTHER INFORMATION

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