MATERIAL SAFETY DATA SHEET

Section 1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: UNILINK 4200

Section 2. COMPOSITION

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Wt%</th>
<th>EU Symbol</th>
<th>EU Risk Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-dialkylamino-diphenylmethane</td>
<td>5285-60-9</td>
<td>&gt; 96</td>
<td>XN</td>
<td>R-22</td>
</tr>
</tbody>
</table>

Section 3. HAZARD IDENTIFICATION

Harmful if swallowed.

Section 4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water for 15 minutes. Consult a doctor/medical service if irritation persists.

Skin contact: Use waterless hand cleaner. Then wash with lots of water and soap. Consult a doctor/medical service.

After inhalation: Unconscious: maintain adequate airway and respiration. Remove the victim into fresh air. Consult a doctor/medical service.

After ingestion: Never give water to an unconscious person. Do not allow vomiting. Give activate charcoal (5% 5 ml/kg of body weight). Consult a doctor/medical service if you feel unwell.

Section 5. FIRE-FIGHTING MEASURES


Unsuitable extinguishing media: No data available.

Special exposure hazards: Combustible. On heating/burning: release of toxic and corrosive gases/vapors (nitrous vapours, carbon monoxide, carbon dioxide.

Instruction: Dilute toxic gases with water spray.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal protection: See Section No 8.

Environmental precautions: Collect/pump leaking substance into suitable containers. Plug the leak, cut off the supply.

Clean-up: Take up liquid spill into adsorbent material, e.g.: sand, earth, vermiculite. Scoop adsorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Section 7. HANDLING AND STORAGE

Handling: Reduce/avoid exposure and/or contact. Keep container tightly closed. Remove contaminated clothing immediately. Clean contaminated clothing. Comply with the legal requirements.

Storage: Store in a cool and well-ventilated area. Store out of direct sunlight. Keep away from: heat sources, oxidizing agents, reducing agents.

Storage temperature: Not determined.

Materials for packaging: Suitable: N. D. A. To avoid: aluminum, copper tin, zinc.

Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Recommended engineering controls: Work under local exhaust/ventilation.

Sampling methods: N. D. A.

Exposure Limits

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>MAK</th>
<th>OEL-TWA(EH40/98)</th>
<th>ACGIH TLV-TWA(1997)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-dialkylamino diphenylmethane</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
</tr>
</tbody>
</table>

Personal Protection

Eye protection: Protective goggles.

Hand protection: Gloves.

Skin protection: Protective clothing.

Materials for protective clothing: No data available.

Respiratory protection: On heating: Gas mask.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance (at 20°C) : Viscous Liquid
Odor : Irritating / pungent
Color : Brown
PH Value : N. D.
Boiling Point / Boiling range : 441 °C
Pour Point : - 9 °C
Flash Point : 161 °C
Auto-ignition Point : N. D.
Apparent bulk density : N. A.
Explosion Limit : N. D. Vol%
Vapor Pressure (at 20 °C) : < 1.3 hPa
Relative Density (at 20 °C) : 0.99
Solubility in water : Insoluble
Soluble in : N. D.
Relative vapour density : 10.7
Saturation concentration : N. D.
Viscosity : N. D.

Section 10. STABILITY AND REACTIVITY

Stability : Stable under normal conditions.

Reactivity/Hazardous decomposition products : On heating/burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide, carbon dioxide).

Conditions/materials to avoid : Keep away from : heat sources, oxidizing agents, reducing agents.

Section 11. TOXICOLOGICAL INFORMATION

Acute toxicity :
LD50 oral rat : 1380 mg/kg  LD50 dermal rat : N.D. mg/kg
LD50 dermal rabbit : 3090mg/kg  LC50 inhalation rat : N.D. mg/1/4 h

Chronic toxicity :
EEC carc.cat. : Not listed  EEC muta.cat. : Not listed
EEC repr.cat. : Not listed  Carcinogenicity : Not listed
IARC classification : Not listed

Routes of exposure : Swallowed, inhalation, eyes and skin.

Acute effects/symptoms : Harmful by ingestion.
Practically non-toxic in contact with skin.
Slightly irritant to skin.
Slightly irritant to respiratory organs.
Slightly irritant to eyes.

Chronic effects : No data available.

On continuous/repeated exposure/contact : Change in the haemogramme/blood composition.
Enlargement/affection of the liver.
Affection of the renal tissue.

Section 12. ECOLOGICAL INFORMATION

Mobility : Slightly Volatile.
Insoluble in water.

**Biodegradation**

- **Soil**: T½: Not determined days
- **BOD₅**: Not determined g O₂/g substance
- **COD**: Not determined g O₂/g substance

**Bioaccumulation**

- **log P<sub>ow</sub>**: Not determined
- **BCF**: Not determined

**Aquatic toxicity**

- **Water**: No data available

**Other information**

- **WGK**: Not determined
- **Effect on the ozone layer**: Not determined
- **Waste water purification**: Not determined
- **Effect on the ozone layer**: Not determined
- **Waste water purification**: Not determined

---

**Section 13. DISPOSAL INFORMATION**

**Provisions relating to waste**: Hazardous waste (91/689/EEC).

**Disposal methods**: Landfill or incinerate at an approved site in accordance with national and local regulations. **Recommended method**: Remove to an authorised incinerator equipped with an afterburner and a flue gas scrubber.

---

**Section 14. TRANSPORTATION INFORMATION**

**Proper shipping name**: Not Applicable

**Substance Identification number (UN number)**: Not applicable.

**Packaging group**: Not Regulated

**Transport by road/rail (ADR/RID)**: Not Regulated

- **Danger code**: Not applicable.

  **Danger labels on tanks**: Not applicable.

  **Danger labels on packages**: Not applicable.

**Maritime transport (IMDG code)**: Not Regulated.

- **EMS**: Not applicable.
- **MFAG**: Not applicable.
- **Marine pollutant**: No

**Inland navigation (ADNR)**: Not Regulated

**Air freight (ICAO)**: Not Regulated

- **Instruction “passenger”**: Not applicable.
- **Instruction “cargo”**: Not applicable.

**Other information**: No.

---

**Section 15. REGULATORY INFORMATION**
**United States**

**Toxic Substances Control Act (TSCA)**  
All the ingredients of this mixture are registered on the TSCA Chemical Substance Inventory.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) reportable Quantity:**  
The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal to or greater than the Threshold Planning Quantity (TPQ):

-- None --

**Section 313 (Toxic Chemicals)**  
The following component(s) have been specified as Toxic Chemicals under SARA Section 313 and may be subject to the Toxic Release Inventory (TRI) reporting requirements under 40 CFR 372.

-- None --

**The following components are listed in US State Regulations**

<table>
<thead>
<tr>
<th>State Reg Reference</th>
<th>Component(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>California – Propostion 65</td>
<td>None</td>
</tr>
<tr>
<td>Massachusetts Right-To-Know</td>
<td>None</td>
</tr>
<tr>
<td>New Jersey Right-To-Know</td>
<td>None</td>
</tr>
<tr>
<td>Pennsylvania Right-To-Know</td>
<td>None</td>
</tr>
</tbody>
</table>

Note : Other US State Regulations may exist, check your local sources if available or contact Dorf Ketal Representative.

**Canada**

**Canadian Hazardous Products Act**

This product is not classified as a controlled product under regulations pursuant to the federal Hazardous Product Act (e.g. WHMIS)

**Canadian Environmental Protection Act**

All the ingredients of this mixture are notified to CEPA and on the DSL (Domestic Substances List)

**European Union (EU)**

**European Inventory of Existing Commercial Chemicals Substances**

All components of this product are included in EINECS/ELINCS

**Council of European Communities Directive on Classification, Packaging and Labeling of Dangerous Substances/Preparation (67/548/EEC and 88/379/EEC):**

- Symbol(s) : Xn (Harmful)
- Contains : N,N'-dialkylamino-diphenylmethane
- Risk Phrases : R22 Harmful if Swallowed
- Safety Phrases : S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Section 16. OTHER INFORMATION
N.A. - Not applicable.
N.D. - Not determined.
N/E - None established.
MAK - Maximale Arbeitsplatzkonzentrationen, German exposure limits.
OEL - Occupational Exposure Limits EH40, U.K.
G - Total dust.
F - Fine dust.
ACGIH - American Conference of Governmental Industrial Hygienists.
TLV - Threshold Limit Value.

For additional information concerning this product, contact the following:

Dorf Ketal Chemicals LLC
11104 West Airport Blvd. #125
Stafford, Texas 77477
U.S.A.
Phone: 832 351 3492
Fax: 832 351 3498

PRODUCT EMERGENCIES

If you have a product-related emergency, resulting in an incident such as a spill or release of product or human exposure and need assistance from DORF KETAL, please contact the following:

EMERGENCY NUMBER:
CHEMTREC, U.S. DOMESTIC: (800) 424-9300
CHEMTREC, INTERNATIONAL: (703) 527-3887

The data and recommendations presented in this data sheet concerning the use of our product and the materials contain therein are believed to be accurate and are based on information which is considered reliable as of the date hereof. However, the customer should determine the suitability of such material for his purpose before adopting them on a commercial scale. Since the use our products by others is beyond our control, no guarantee, express or implied, is made and no responsibility assumed for the use of this material or the results to be obtained there from. Information on this form is furnished for the purpose of compliance with Government Health and Safety Regulations and shall not be used for any other purposes. Moreover, the recommendations contained in this data sheet are not to be constructed as a license to operate under, or a recommendation to infringe, any existing patents, nor should they be confused with state, municipal or insurance requirements, or with national safety codes.

END OF MSDS