

Safety Data Sheet

Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

1 Identification of the Substances/Preparation and of the Company/Undertaking

- **Product identifier**
- **Product name:** Unilink- 4200
- **Relevant identified uses of the substance or mixture and uses advised against**
As a chain extender for coating applications . Not for consumer applications
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dorf Ketal Chemicals LLC
11200 Westheimer Road
Suite 400
Houston, Texas 77042
Phone= +1 713 343 2377
Fax= +1 832 649 7615
Email: ehss@dorketal.com
- **Emergency telephone number:**
For Chemical Emergency ONLY (spill, leak, fire, exposure or accident) call Chemtrec at +1 (703) 527 3887 or Chemtrec India at 000-800-100-7141. DORF KETAL Emergency Control Room +91 22-65271001.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 4 H302 Harmful if swallowed.
- **OSHA/HCS status**
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
4,4'-methylenebis[N-sec-butylaniline]
- **Hazard statements**
Harmful if swallowed.
- **Precautionary statements**
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.
Rinse mouth.

(Contd. on page 2)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
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Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 1)

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

· **Other hazards** No information available.

3 Composition/information on ingredients

· **Chemical characterization: Substances**· **Dangerous components:**

5285-60-9	4,4'-methylenebis[N-sec-butylaniline]	Acute Tox. 4, H302	94.4-100%
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4 First-aid measures

· **Description of first aid measures**· **General information:**

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

· **Inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· **Skin Contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

· **Eye Contact:**

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **Ingestion:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting.

If symptoms occur seek medical attention.

· **Most important symptoms and effects, both acute and delayed**

Harmful if swallowed. Irritating to mouth, throat and stomach.

(Contd. on page 3)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 2)

· **Indication of any immediate medical attention and special treatment needed**

Show this safety data sheet to the doctor in attendance. Treat symptomatically.

* **5 Fire-fighting measures**

· **Extinguishing media** In case of fire use the following suitable extinguishing agent.

· **Suitable extinguishing agents:** Use dry chemical, CO₂, water spray (fog) or foam.

· **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

Carbon dioxide

· **Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

· **Protective equipment:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

* **6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

Keep away from ignition sources

Ensure adequate ventilation

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Stop leak if without risk.

Move containers from spill area.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

(Contd. on page 4)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 3)

7 Handling and storage

- **Precautions for safe handling**

- Put on appropriate personal protective equipment .

- Do not ingest.

- Avoid contact with eyes, skin and clothing.

- Avoid breathing vapour or mist.

- Ensure good ventilation/exhaustion at the workplace.

- Prevent formation of aerosols.

- **Information about protection against explosions and fires:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:** Store away from foodstuffs.

- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:** Not Established.

- **Exposure controls**

- **Appropriate engineering controls:**

- Use local exhaust ventilation or other engineering control to maintain airborne levels below exposure limit requirement or guidelines.

- If there are no applicable exposure limit requirement or guidelines, general ventilation should be sufficient for most operations.

- Local exhaust ventilation may be necessary for some operations.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Do not eat, drink, smoke or sniff while working.

- Keep away from foodstuffs, beverages and feed.

- Wash hands before breaks and at the end of work.

- **Breathing equipment:**

- Where there is potential for airborne exposures, wear NIOSH approved respiratory protection.

- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 4)

- **Material of gloves**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Goggles recommended during refilling.

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Color: Brown

- **Odor:** Irritant

- **Odour threshold:** No data available.

- **pH-value:** No data available

- **Melting point/Freezing Point :** -9 °C (16 °F)

- **Boiling point/Boiling range:** 441 °C (826 °F)

- **Flash point:** 161 °C (322 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** No data available.

- **Explosion limits:**

Lower: No data available.

Upper: No data available

- **Oxidizing properties** No data available.

- **Vapor pressure:** No data available.

- **Relative density at 26.7 °C (80 °F)** 0.99 g/cm³ (8.262 lbs/gal)

- **Vapour density at 20 °C (68 °F)** 10.7 g/cm³ (89.292 lbs/gal)

- **Evaporation rate** No data available

- **Solubility(water):** Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** 6.08

(Contd. on page 6)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

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Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 5)

- **Viscosity:**
- Dynamic:** No data available.
- Kinematic at 38 °C (100 °F):** 1.1 cm²/s

10 Stability and reactivity

- **Reactivity** Under normal conditions of storage and use, hazardous reactions will not occur.
- **Chemical stability** The product is stable under storage at normal ambient temperature.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Avoid all possible sources of ignition (spark or flame).
- **Incompatible materials:**
Reactive or incompatible with the following materials:
Oxidizing material
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

5285-60-9 4,4'-methylenebis[N-sec-butylaniline]

Oral	LD50	1380 mg/kg (Rat)
Dermal	LD50	3090 mg/kg (Rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Respiratory/ Skin sensitization:** No sensitizing effects known.
- **Germ cell mutagenicity:** No known significant effects or critical hazards.
- **Carcinogenicity:** No known significant effects or critical hazards.
- **Reproductive toxicity:** No known significant effects or critical hazards.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **Single dose toxicity:** No known significant effects or critical hazard.

(Contd. on page 7)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 6)

- **Repeated Dose toxicity** No known significant effects or critical hazard.
- **Aspiration hazard** Product is not classified for aspiration hazard.
- **Other relevant information:** No data available

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** Not classified as hazardous to aquatic life.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment** Not available
- **Other adverse effects** No further relevant information available.

13 Disposal Information

- **Waste treatment methods**
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|-------------------------------------|----------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | Not Applicable |
| · UN proper shipping name | |
| · DOT, ADR | Not Applicable |
| · Transport hazard class(es) | Not applicable |
| · Packing group | Not applicable |

(Contd. on page 8)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

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Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 7)

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|--|-----------------|
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Not applicable |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

(Contd. on page 9)

Safety Data Sheet
Conforms to OSHA Hazard Communication Standard (HCS)
29CFR 1910.1200

Printing date 06/21/2014

Version number 2

Reviewed on 06/21/2014

Product name: Unilink- 4200

(Contd. of page 8)

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

File name: Unilink 4200 300282 SDS US en JUN-21-2014

Superseded SDS date: FEB-14-2013

Change History: SDS format updated

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

APF = Assigned protection factor

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

IOELV: Indicative Occupational Exposure Limit Values

- **Disclaimer:**

The data and recommendations presented in this data sheet concerning the use of our product and the materials contain there in 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 much material for his purpose before adopting them on a commercial scale. Since the use our product 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 document 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 Safety 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.