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| MATERIAL SAFETY DATA SHEET |
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Section 1 - Product and Company Identification

Product Name: **Zorbax XDB C18 - chromatography packing**
Product Number: **5183-2021**
Date Prepared: **July 24, 2003** Number of Pages: 7
Manufacturer's Name: **Agilent Technologies, Inc.**
2850 Centerville Road
Wilmington, Delaware 19808
USA Emergency Telephone Number: **1-302-633-8899**
USA Information Telephone Number: **1-877-4Agilent**
European Information Telephone Number: **(7243) 602-2**
European Emergency Telephone Number: **0049(0)6151/722440**
When Calling from Outside the USA You May Also Dial Your International Access Code for the USA, then 1, then 302 633 8000

Section 2 - Composition/Information on Ingredients REFER TO TABLE

This items contains two different chromatography packing materials as follows:

Zorbax XDB-C18 chromatography packing is a reaction product of high purity silica gel [112926-00-8] with dimethyl-n-octadecyl silane: (SiO₂)_x[Si(CH₃)₂(CH₂)₁₇CH₃]_y [72245-35-3]. Families: Surface modified amorphous silica. Synonyms: Eclipse XDB-C18, Zorbax 300XDB-C18, Eclipse 300XDB-C18, Eclipse dsDNA, Eclipse AAA and Zorbax RX-C18.

This

Zorbax SB-C18 chromatography packing is a reaction product of high purity silica gel [112926-00-8] with diisobutyl-octadecyl silane:(SiO₂)_x[Si(C₄H₉)₂(CH₂)₁₇CH₃]_y [No CAS Assigned]. Families: Surface modified amorphous silica. Synonyms: Zorbax SB C-18, Zorbax 300 SB C-18, and Poroshell 300 SB C-18.

See additional pages for addition information.

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Section 3 - Hazards Identification

May cause eye irritation. Do not breathe dust.

Section 4 - First-Aid Measures**Inhalation:**

Inhalation: Symptoms of overexposure may include cough and discomfort. If large amounts are inhaled, move affected person to fresh air. If breathing is difficult give oxygen. If breathing has stopped begin resuscitation measures. Contact physician. **Skin Contact:** Wash with soap and water. **Eye Contact:** May be a mild eye irritant. Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water by separating the eyelids with fingers. If redness or discomfort persists, contact a physician. **Ingestion:** This compound is not likely to be hazardous by ingestion. However, if swallowed, wash out mouth with water provided affected person is conscious. Consult a physician.

Section 5 - Fire-Fighting Measures

Extinguishing Media: Appropriate to surroundings. **Special Fire Fighting Procedures:** Wear full protective clothing and self contained positive pressure breathing apparatus certified by NIOSH when fighting chemically related fires. **Unusual Fire and Explosion Hazards:** None

Section 6 - Accidental Release Measures

Wearing appropriate personal protective equipment, sweep up using a dust suppresser. Vacuum the remainder of the smaller quantities using a HEPA-type vacuum. Avoid inhaling dust. Place waste in a plastic bag or other suitable container and dispose of as residual waste. Unused material is not defined as hazardous waste by RCRA (40 CFR Part 261) and may be landfilled according to federal, state and local regulations.

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Section 7 - Handling and Storage

Do not breathe dust and avoid contact with skin and eyes. Wash thoroughly after handling. Maintain good housekeeping practices. Keep containers closed. Do not store with incompatible materials. Store in a cool, dry place.

Section 8 - Exposure Controls/Personal Protection

Ventilation: Adequate ventilation is required to protect personnel from exposure to chemical vapors or dusts exceeding PEL and to minimize fire hazards. See Section 15 for regulatory standards of exposure. **Respiratory:** Use NIOSH approved respirator equipment. See Section 15. **Eyes:** Safety glasses are considered minimum protection. Chemical safety goggles or face shield may be necessary depending on quantity of material and conditions of use. Emergency eye wash fountains should be available in the vicinity of any possible exposure. **Skin:** Chemical-resistant protective gloves and clothing are recommended. The choice of protective gloves or clothing must be based on chemical resistance and other user requirements. Generally BUNA-N offers acceptable chemical resistance. Individuals who are acutely and specifically sensitive to this chemical may require additional protective clothing.

Section 9 - Physical and Chemical Properties

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| Flash Point (Method Used): | NA | Explosion Potential: LEL (NA)/UEL (NA) |
| Specific Gravity (H ₂ O = 1): | ND | Melting Point (Degree F): ND |
| Evaporation Rate (n-butyl acetate =1) | NA | Boiling Point (Degree F): ND |
| Vapor Pressure (mm Hg at 25°C): | ND | Vapor Density (Air =1): NA |
| Odor Threshold: | ND | Octanol/Water Partition Coefficient: NA |
| Solubility in Water: Insoluble (X) /Soluble () | | |
| Appearance and Odor: | White, off-white powder. Faint odor. | |

Section 10 - Stability and Reactivity

Stability: Stable (x) / Unstable () **Conditions to Avoid:** NA
Incompatibility (Materials to Avoid): Reacts with hydrofluoric acid (HF)
Hazardous Decomposition or Byproducts: NA
Hazardous Polymerization: May Occur () / Will Not Occur (x)

Section 11 - Toxicological Information

Route(s) of Entry: Inhalation? **Yes** Skin? **No** Eyes? **Yes** Ingestion? **Yes**
Health Hazard Acute/Chronic: This product does not contain crystalline silica (CA) that is considered hazardous by inhalation.
Carcinogenicity: NTP? **No** IARC Monographs? **No** OSHA Regulated? **No** Others? **No**
Medical Conditions Generally Aggravated by Exposure: Preclude from exposure to dust those persons with preexisting upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema and asthma.

Section 12 - Ecological Information

Persistence/Degradability: Based on chemical experience, will degrade over very long period of time.
Biodegradability: ND
Bioaccumulation: NA

Section 13 - Disposal Considerations

Unused product is not hazardous as defined by RCRA (40 CFR Part 261). Unused material may be landfilled as a residual waste according to federal, state and local regulations.

Section 14 - Transport Information

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| DOT Regulations: | IATA-DGR Regulations: |
| Shipping Name: Non-regulated Material | Shipping Name: Non-regulated Material |
| RID/ADR: NA | ADNR: NA |

Section 15 - Regulatory Information (fused silica)

Exposure Limits: There are no established exposure limits for this product. However, if grinding or other means generates dust, the following standard would apply: Particulate matter not otherwise classified: (PNOC).

OSHA PEL:

5 mg/m3 (Respirable fraction)

15 mg/m3 (Total dust)

ACGIH TWA:

3 mg/m3 (Respirable particulate)

10 mg/m3 (Inhalable particulate)

SARA Reporting: Section 302: None Section 304: None Section 313: None

OSHA Labeling Requirements: None

Section 16 - Other Information

Unless otherwise noted, the above information pertains only for the base material and similar types of components in the sample.

When no toxicity data is provided, it is prudent to handle this chemical as hazardous. Furthermore, since individual chemical hypersensitivity cannot be predicted, every chemical should be handled with due respect.

EUROPEAN INFORMATION (Silica)

CAUTION: SUBSTANCE NOT YET FULLY TESTED.

HARMFUL

R 20: Harmful by inhalation.

R 36/37: Irritating to eyes and respiratory system.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36: Wear suitable protective clothing.

S 22: Do not breathe dust.

KEY TO ABBREVIATIONS

ACGIH - American Conference of Governmental Industrial Hygienists` **ADNR** - Regulations concerning the carriage of dangerous goods on the Rhine **CAS** - Chemical Abstract Service **DOT** - US. Department of Transportation 49 Code of Federal Regulations **IARC** - International Agency for Research on Cancer **IATA-DGR** - International Air Transport Association- Dangerous Goods Regulation **LEL** - Lower Explosion Limit **NA** - Not Applicable **ND** - No Data **NIOSH** - National Institute for Occupational Safety and Health **NTP** - National Toxicology Program **OSHA** - Occupational Safety and Health Administration **PEL** - Permissible Exposure Limit **RID/ADR** - Regulations Concerning the International Carriage of Dangerous Goods by Rail/European Agreement Concerning the International Carriage of Dangerous Goods by Road **TLV** - Threshold Limit Value **TWA** - Time Weighted Average **UEL** - Upper Explosion Limit [] - Indicates CAS Number

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Extinguishing Media: Appropriate to surroundings. **Special Fire Fighting Procedures:** Wear full protective clothing and self contained positive pressure breathing apparatus certified by NIOSH when fighting chemically related fires. **Unusual Fire and Explosion Hazards:** None

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| Vapor Pressure (mm Hg at 25°C): | ND | Vapor Density (Air =1): NA |
| Odor Threshold: | ND | Octanol/Water Partition Coefficient: NA |
| Solubility in Water: Insoluble (X) /Soluble () | | |
| Appearance and Odor: | White, off-white powder. Faint odor. | |

Section 10 - Stability and Reactivity

Stability: Stable (x) / Unstable () **Conditions to Avoid:** NA
Incompatibility (Materials to Avoid): Reacts with hydrofluoric acid (HF)
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