GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
	Health Hazard 2 Fire Hazard 1 Reactivity 0	 See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**4,4-Bis(dimethylamino)diphenylmethane**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Methylene base; Michler's Base; Mchler's hydride; Michler's Methane; reduced Michler's ketone; Tetrabase
Synonym	4,4-Tetramethyldiaminodiphenyl methane; 4,4'-Methylenebis (N,N-dimethylaniline); N,N,N',N-Tetramethyl-4,4'-methylenedianline; 4,4'-Methylenebis(N,N-dimethylbenzenamine; Bis(4-(dimethylamino)phenyl)methane; Bis(p-N,N-dimethylamino)phenyl)methane; Diphenylmethane, tetramethyldiamino-
Chemical Name	Aniline, 4,4'-methylenebis(N,N-dimethyl-
Chemical Family	Not available.
Chemical Formula	C17-H22-N2
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	B2235
CAS#	101-61-1
RTECS	BY5250000
TSCA	TSCA 8(b) inventory: 4,4-Bis(dimethylamino)dipheny
CI#	Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) {4,4-}Bis(dimethylamino)diphenylmethane	101-61-1				100

Toxicological Data on Ingredients

4,4-Bis(dimethylamino)diphenylmethane:
ORAL (LD50): Acute: 3160 mg/kg [Mouse].

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Section 3. Hazards Identification

Potential Acute Health Effects	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant).
Potential Chronic Health Effects	**CARCINOGENIC EFFECTS**: Classified 2 (Some evidence.) by NTP. 3 (Not classifiable for human.) by IARC. **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: Not available. The substance may be toxic to blood, liver, thyroid. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.
Explosion Hazards in Presence of Various Substances	Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	As with most organic solids, fire is possible at elevated temperatures
Special Remarks on Explosion Hazards	Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

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Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Crystalline powder.)
Molecular Weight	254.38 g/mole
pH (1% soln/water)	Not applicable.

Odor	Odorless.
Taste	Not available.
Color	Off-white.

Boiling Point	390°C (734°F)
Melting Point	88°C (190.4°F) - 91 C
Critical Temperature	Not available.
Specific Gravity	Not available.
Vapor Pressure	Not applicable.
Vapor Density	8.77 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, diethyl ether.
Solubility	Soluble in diethyl ether. Insoluble in cold water, hot water. Soluble in benzene, carbon disulfide, acids. Slightly soluble in cold alcohol. More soluble in hot alcohol.

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, dust generation, incompatible materials
Incompatibility with various substances	Reactive with oxidizing agents, acids.
Corrosivity	Not available.
Special Remarks on Reactivity	Incompatible with acid anhydrides, acid chlorides
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 3160 mg/kg [Mouse].
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: Classified 2 (Some evidence.) by NTP. 3 (Not classifiable for human.) by IARC. **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: blood, liver, thyroid.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May cause cancer. May affect genetic material (mutagenic).
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. Inhalation: Causes respiratory tract irritation. Ingestion: Causes gastrointestinal tract irritation with nausea, vomiting, and diarrhea, collicky pain. Since this substance is an aniline, exposure inhalation and ingestion may cause Methemoglobinemia. It is characterized by nausea, vomiting, dyspnea (difficulty breathing), central nervous system depression and nervous system effects (headache, confusion, faintness, dizziness, disorientation, weakness, loss of coordination, lethargy, fatigue, tremor, spasticity, convulsions, loss of conciousness, coma), muscle pain, cardiac arrhythmias, heart block. Cyanosis may also occur after exposure. The lips, tongue, and mucous membranes may turn navy blue to black and the skin slate gray. Death may occur due respiratory paralysis or cardiovasular collapse. A Heinz-body hemolytic crisis may follow the development of Methemoglobinemia. Chronic Potential Health Effects: Toxic effects with chronic exposure may resemble those of acute exposure.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.

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Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: 4,4-Bis(dimethylamino)diphenylmethane
California prop. 65 (no significant risk level): 4,4-Bis(dimethylamino)diphenylmethane: 0.02 mg/day (value)
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: 4,4-Bis(dimethylamino)diphenylmethane
Illinois toxic substances disclosure to employee act: 4,4-Bis(dimethylamino)diphenylmethane
Pennsylvania RTK: 4,4-Bis(dimethylamino)diphenylmethane
Minnesota: 4,4-Bis(dimethylamino)diphenylmethane
Massachusetts RTK: 4,4-Bis(dimethylamino)diphenylmethane
New Jersey: 4,4-Bis(dimethylamino)diphenylmethane
New Jersey spill list: 4,4-Bis(dimethylamino)diphenylmethane
California Director's List of Hazardous Substances: 4,4-Bis(dimethylamino)diphenylmethane
TSCA 8(b) inventory: 4,4-Bis(dimethylamino)diphenylmethane
SARA 313 toxic chemical notification and release reporting: 4,4-Bis(dimethylamino)diphenylmethane

California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: 4,4-Bis(dimethylamino)diphenylmethane
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC)

R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.
R45- May cause cancer.
R46- May cause heritable genetic damage.

S22- Do not breathe dust.
S24/25- Avoid contact with skin and eyes.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S53- Avoid exposure - obtain special instructions before use.

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HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)

Health

Flammability

Reactivity

Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Splash goggles.

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Section 16. Other Information

MSDS Code	**B3731**
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/11/2006.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.