

Safety Data Sheet

Section 1: Product & Company Identification

Product Name:	TMB
Product #:	T-2463
Synonyms:	3,3',5,5'-Tetramethylbenzidine
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego, CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS #	EC #	% Composition
TMB	54827-17-7	259-364-6	

Section 3: Hazards Identification

Symbols	
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HMIS Rating

Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard

Section 4: First Aid Measures

General Overview:	Show this material safety data sheet to the doctor in attendance.
Inhalation:	Fresh air. Consult a physician.
Skin:	Take off all contaminated clothing immediately. Rinse skin with water/shower. Consult a physician.

Eyes:	Rinse out eyes with plenty of water, remove contact lenses. Consult an ophthalmologist.
Ingestion:	Immediately make victim drink water (two glasses at most). Consult a physician.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	Combustible
Extinguishing Media:	Water, foam, carbon dioxide, dry powder
Hazardous thermal (de)composition products:	Development of hazardous combustion gases or vapors possible in the event of a fire: Carbon oxides, Nitrogen oxides (NO _x)
Special Fire Fighting Procedures:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Flash Point:	No data available.





Section 6: Accidental Release Measures

Personal Precautions:	Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Environmental Precautions:	Do not let product enter drains.
Methods for Clean-up:	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see Sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: Handling & Storage

Storage:	Handle under nitrogen, protect from moisture. Store under nitrogen. Tightly closed. Dry. Recommended storage temperature: -20°C
Handling:	Work under hood. Do not inhale substance/mixture. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 8: Exposure controls / Personal Protection

<p>Respiratory Protection:</p>	 <p>Recommended Filter type: Filter type P3. The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures must be properly documented. Required when dusts are generated.</p> <p>Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.</p>
<p>Skin and Body:</p>	  <p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>Protective clothing/lab coat.</p>
<p>Eyes:</p>	 <p>Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.</p>

Ventilation/Engineering Measures:	Ensure adequate ventilation. Do not let product enter drains.
Hygiene:	Follow standard good industrial hygiene. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Other:	Contains no substances with occupational exposure limit values.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Solid
Formula	C ₁₆ H ₂₀ N ₂
Molecular Wt.	240.34
Melting Pt.	168 - 171°C (334 - 340°F)
Boiling Pt.	168 - 169°C (334 - 336°F)
Density:	No data available
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	DMF, DMSO
Flash Point:	No data available
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	No data available
Materials to Avoid:	Strong oxidizing agents
Conditions to avoid:	Exposure to moisture. Light.

SECTION 11: Toxicological Information

RTECS#:	DV2300000
ACUTE Toxicity:	LD50 Oral = 404 mg/kg (Rat)
CHRONIC Toxicity:	Germ cell mutagenicity Test type: mouse Test system: lymphocyte Remarks: mutation in mammalian somatic cells Species: mouse Application route: Intraperitoneal Remarks: micronucleus test

Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>
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SECTION 12: Ecological Information

Ecotoxicity:	No data available
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	No data available

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste.
Contaminated Packaging:	Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	Not regulated
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	Warning! H302 Harmful if swallowed. H351 Suspected of causing cancer. H413 May cause long lasting harmful effects to aquatic life.
Risk Phrases:	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Safety Phrases:	P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P405 Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.
EU Regulations:	N/A
US Regulations:	TSCA: Listed California Proposition 65: No products were found
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: Acute toxicity (Cat. 4); Carc. (Cat. 2); Aquatic chronic (Cat. 4)
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*