Material Safety Data Sheet

Revision: 12/09/2005

Hazard information is provided for compliance with both the UK Chemicals (Hazard Information and Packaging) (CHIP) Regulations and the US Hazard Communication Standard (HCS)

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT NAME: 3,3',5,5'-Tetramethylbenzidine Substrate

PRODUCT CODE: 22128

EEC NUMBER: None

SUPPLIER:
USB Corporation, 26111 Miles Road, Cleveland, Ohio 44128 Phone: (216) 765-5000
Please visit our website at **www.usbweb.com** for contact information on USB product distributors within your area.

Emergency Contact:
Chemtrec (800) 424-9300
Outside USA & Canada 703 527 3887

COMPOSITION/ HAZARDOUS COMPONENTS

HAZARD	CAS NO.	%WT	TLV	CHIP R & S Phrases
Methanol	67-56-1	0-30%	See "Regulatory Information" Section	For mixture/preparation: R:23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R:39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. R:36/37/38 Irritating to eyes, respiratory system and skin. S:7 Keep container tightly closed. S:16 Keep away from sources of ignition - No smoking. S:24 Avoid contact with skin. S:33 Take precautionary measures against static discharges. S:36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S:45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
Acetone	67-64-1	0-10%		
DMSO	67-68-5	0-3%		

HAZARDS IDENTIFICATION

CHIP
Toxic
HCS
Toxic

EYES: Flush with water for 15 minutes. Seek medical advice if irritation persists.
SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.
INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.
INGESTION: Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

FIRE-FIGHTING INFORMATION

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Emits toxic fumes under fire conditions. Flash Point (substrate) = No data available.

ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Remove all sources of ignition. Use non-sparking tools and equipment. Cover with dry-lime, sand or soda ash, collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.

HANDLING AND STORAGE

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Avoid contact of material with skin or eyes. Use adequate ventilation. Keep container tightly closed. Protect from light. Keep away from heat, sparks and open flame. Store at +4°C away from incompatible materials.

MSDS information may be continued on back of page.

PERSONAL PROTECTION

Wear appropriate personal protective equipment and clothing ncluding ab coat, safety glasses, goggles and N OSH-approved respirator. A qualified industr al hygien st should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear to slightly yellow transparent liquid
Vapor Pressure: No data available

Boiling Point: No data available
Vapor Density: No data available
Specific Gravity: No data available
Evaporation Rate: No data available

Chemical formula: No data available

STABILITY AND REACTIVITY

Product is stable. Protect from moisture and light. Hazardous decomposition products include oxides of carbon. Incompatible with oxidizing agents, acids, acid chlorides, acid anhydrides, reducing agents and alkali metals. Hazardous polymerization will not occur.

TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE:
EYES: Vapor or mist may be irritating to the eyes
SKIN: May be toxic if absorbed through the skin. Contact may cause irritation and dermatitis.
INHALATION: Toxic if inhaled. Vapor or mist may be irritating to mucous membranes and upper respiratory tract.
INGESTION: Toxic if swallowed. Chronic ingestion or excessive dosage may cause gastrointestinal disturbances and convulsions.
TARGET ORGAN(S): Eyes, Kidneys, Liver and Heart.
ADDITIONAL INFORMATION:
Only select RTECS information is provided here. Please see actual RTECS entry for complete information.
Reproductive effects, irritation, mutation and toxicity data for Methanol listed in RTECS under PC1400000.
Irritation data: Skin Rabbit 20 mg/24H = Moderate (1986). Eye Rabbit 100 mg 24H = Moderate (1986).
Toxicity data: Inhalation Rat LC50 = 64000 ppm 4H (1974). Ora Rat LD50 = 5600 mg/kg (1984).
Details of toxic effects not reported other than lethal dose value.
Reproductive effects, irritation, mutation and toxicity data for Acetone listed in RTECS under AL3150000
Irritation data: Skin Rabbit 500 mg/24H = M d (1986). Eye Rabbit 20 mg/24H = Moderate (1986).
Toxicity data: Inhalation Rat LC50 = 50100 mg m3 8H (1959). Oral Rat LD50 = 5800 mg kg (1985).
Toxic effects may include altered sleep time and tremor.
Reproductive effects, tumorigenic, irritation, mutation and toxicity data for DMSO listed in RTECS under PV6210000.
Irritation data: Skin Rabbit 10 mg/24H = Mild (1962). Eye Rabbit 500 mg/24H = Mild (1986).
Toxicity data: Skin Rat LD50 = 40 gm/kg (1967). Oral Rat LD50 = 14500 mg/kg (1969). Toxic effects may include changes in sense organs and special senses (eye) such as hemorrhage and conjunctive irritation.
Definition(s): RTECS = Registry of Toxic Effects of Chemical Substances.
OSHA = Occupational Safety and Health Administration.

ECOLOGICAL INFORMATION

No information available.

DISPOSAL CONSIDERATIONS

Dispose of material in accordance with applicable local, state, and federal regulations.

TRANSPORTATION INFORMATION

US DOT / IATA: No data available.

REGULATORY INFORMATION

RCRA - No applicable information.
SARA 302 - No applicable information.
SARA 313 - This material is subject to SARA Section 313 reporting requirements.
EPA TSCA Section 8(b) - Chemical Inventory (for Methanol, Acetone and DMSO).
8(d) - unpublished health/safety studies (for Methanol, Acetone and DMSO).
8(e) - Risk Notification, 8EHQ-0892-8989 (for Methanol).
Exposure Limits - OSHA PEL (Methanol): 8H TWA 260 mg/m3 (200 ppm).
OSHA PEL (Acetone): 8H TWA 2400 mg/m3 (1000 ppm)
California Proposition 65 - No applicable information