

MATERIAL SAFETY DATA SHEET

SECTION 1: Product Identification

TECHNICAL DESCRIPTION: MIL-DTL-24441D, meets Federal Specification MIL-DTL-24441D, dated August 27, 2009
PRODUCT NAME: PAINT, EPOXY-POLYAMIDE, TWO COMPONENT SYSTEM (Component "A")
TYPE: Type IV, MIL-DTL-24441/31B(SH) - White, Formula 152, Component "A" - Polyamide
SKUs: 24441-F152-T4-GL-A, 24441-F152-T4-CN-A

SECTION 2: Hazardous Ingredients

Chemical	CAS Number	% by Weight	Exposure Limits in Air	
			ACGIH (TLV)	OSHA (PEL)
Polyamide	Trade secret	1 -- 4	NA	NA
Polyamide Adduct	68953-09-3	22 -- 28	NA	NA
Thixatropo Agent	Trade secret	1 -- 2	20 mppcf (dust) TWA	20 mppcf (dust) TWA
n-Butyl Alcohol	71-36-3	20 -- 24	20 ppm TWA	100ppm TWA
Titanium Dioxide	13463-67-7	42 -- 48	10mg/m3 TWA	15mg/m3 TWA (total dust)

SECTION 3: Physical/Chemical Characteristics

APPEARANCE & ODOR: colored viscous liquid, solvent odor
VOC (Volatile Organic Content): 340g/L (2.8 lb./gal.) admixed 1:1 by volume with component B (maximum)
VAPOR PRESSURE: 4.4 mmHg at 68 °F (for N. Butanol)
BOILING RANGE: 241–246°F (116–119°C) at 760 mmHg
WT/GAL.: 11.5 – 12.5 Lbs.
SPECIFIC GRAVITY: 1.38 – 1.50
VAPOR DENSITY: NA (Air = 1)
SOLUBILITY: insoluble in water

SECTION 4: Fire and Explosion Hazard Data

HMIS: H-3* F-3 R-0 PE-F

US DOT Category: Flammable Liquid

Flashpoint (TCC): 99°F (37°C)

Hazard Class: 3

Explosive Limit: N. Butanol
LEL:1.4% UEL: 11.2%

ID No.: UN-1263

Packaging Group: III

EXTINGUISHING MEDIA: Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam) designed to extinguish NFPA class IC flammable liquid fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May generate toxic or irritating combustion products. Vapor forms explosive mixtures with air. Most vapors heavier than air. May generate Carbon Monoxide gas.

SPECIAL FIRE FIGHTING PROCEDURES: Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable. Fire fighters should wear self-contained breathing apparatus and chemical-resistant, personal protective equipment.

SECTION 5: Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Not expected to occur.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: (from burning, heating or reaction with other materials). Carbon Monoxide in a fire. Carbon Dioxide in a fire.

INCOMPATIBILITY (Materials and Conditions to Avoid): Avoid contact with oxidizing agents (i.e. Perchlorates, nitrates, etc), reactive metals (i.e. sodium, calcium, zinc ext.), sodium, calcium hypochlorite, and heat. Reaction with peroxides may result in violent decomposition of peroxides possibly creating an explosion. Material reaction with hydroxyl compounds.

SECTION 6: Spill or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb liquid with vermiculite, floor absorbent or other absorbent material and transfer to hood. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to

clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. WASTE DISPOSAL METHOD (Small Spill): Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood duct work. Dispose of remaining material in accordance with applicable regulations. (Large Spill): Incinerate in approved facility. Dispose in accordance with local, state and federal regulations.

SECTION 7: Health Hazard Data

ROUTES OF EXPOSURE: Eye contact, skin contact, inhalation.
HEALTH HAZARDS: Eye irritant. Respiratory tract irritant. Skin irritant. May cause skin sensitization. May cause central nervous system depression.
ACUTE EFFECT: Contact with skin may cause dryness, itching and/or rash. Inhalation of mists or vapors may cause irritation in the respiratory tract. Contact with the eyes causes severe eye irritation. Product is absorbed through the skin and may cause nausea, headache and general discomfort.
LONG TERM EXPOSURE: Repeat or prolonged exposure may result in adverse respiratory effect (such as cough, tightness of chest or shortness of breath), adverse eye effect (such as

Conjunctivitis, or corneal damage). Repeated exposure to vapors may cause sore throat and eye irritation.

MEDICAL CONDITIONS GENERAL AGGRAVATED BY EXPOSURE: May cause allergic skin reaction/sensitization.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Symptoms from inhalation, eye or skin exposure, or absorption through skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), redness and itching, irritation (eye, nose, throat, airways), or central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness).

CARCINOGENICITY: This product does not contain known carcinogens in concentration of 0.1 percent or greater under OSHA, NTP, or IARC.

SECTION 8: First Aid Procedures

INGESTION: If swallowed seek immediate medical attention. If individual is drowsy or unconscious do not give anything by mouth. Do not induce vomiting unless directed to do so by medical personnel. Do not leave individual unattended.

EYE CONTACT: In case of eye contact, flush eyes immediately with plenty of water for at least 15 minutes. Seek immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush exposed area with large amount of water, launder clothing before reuse. If skin is irritated, seek immediate medical attention.

INHALATION: If affected by inhalation of vapor or spray mist, remove to fresh air. Apply artificial respiration and other supportive measures as required. If symptoms develop, seek medical aid.

OTHER: If ingested or symptoms of overexposure occurs, contact a poison control center (800) 854-6813, emergency room or physician immediately; have Material Safety Data Sheet information available.

SECTION 9: Protection Information

RESPIRATORY PROTECTION: If workplace exposure limit(s) of product or any component is exceeded (see section II), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure. VENTILATION: Provide sufficient mechanical

(general and/or local exhaust) ventilation to maintain exposure below TLV(s). PROTECTIVE GLOVES: Wear gloves resistant to chemicals listed in Section 2. EYE PROTECTION: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative. OTHER PROTECTIVE EQUIPMENT: To prevent repeated or prolonged skin contact, wear impervious clothing and proper footwear.

SECTION 10: Special Precautions

HANDLING: Avoid contact with skin or eyes, avoid breathing vapors. Handle in well ventilated work space and prevent buildup of vapors, especially in low lying areas. Do not eat, drink or smoke when handling. Empty container may contain explosive vapor. Remove all potential sources of ignition from vicinity when handling. All containers should be grounded or bounded when material is transferred. Smoking in the area is prohibited. Avoid using in any spray application without strict conformance to all applicable electrical codes and the OSHA limit for maximum allowable airborne concentrations.

STORAGE: Keep container closed when not in use. Keep away from oxidizers, heat, flames, and sparks. Keep in cool, dry ventilated storage area, and store away from ignition sources.

OTHER PRECAUTIONS: This material is part of a two component system. Read the Material Safety Data Sheet for the other component. Any resulting mixture from blending both components may have the hazards of both parts.

SECTION 11: Transportation Information

DOT PROPER SHIPPING NAME: **PAINT**
 DOT UN NUMBER: **1263**

DOT HAZARD CLASS: **3**
 PACKING GROUP: **III**

OTHER INFORMATION

DISCLAIMER: The material in this Material Safety Data Sheet (MSDS) is, to the best of our knowledge, accurate as of the date issued. However, neither STIC-ADHESIVE nor any of its subsidiaries or agents assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are

described herein, we cannot guarantee that these are the only hazards that may exist. Given the quantity of variables that affect use and application of our products, many of which are within the user's control and unique to each user's knowledge, STIC-ADHESIVE MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE.

MATERIAL SAFETY DATA SHEET

SECTION 1: Product Identification

TECHNICAL DESCRIPTION: MIL-DTL-24441D, meets Federal Specification MIL-DTL-24441D, dated August 27, 2009
PRODUCT NAME: PAINT, EPOXY-POLYAMIDE, TWO COMPONENT SYSTEM (Component "B")
TYPE: **Type IV, MIL-DTL-24441/31B(SH) - White, Formula 152, Component "B" - Epoxy**
SKUs: 24441-F152-T4-GL-B, 24441-F152-T4-CN-B

SECTION 2: Hazardous Ingredients

Chemical	CAS Number	% by Weight	Exposure Limits in Air	
			ACGIH (TLV)	OSHA (PEL)
Epichlorohydrin, Bisphenol A	25085-99-8	42 -- 48	NA	NA
Aromatic Hydrocarbon	64742-95-6	5 -- 17	NA	NA
Thixatropo Agent	Trade secret	1 -- 2	20 mppcf (dust) TWA	20 mppcf (dust) TWA
Magnesium Silicate	14807-96-6	32 -- 36	2mg/m3* TWA	20 mppcf (dust)
1,2,4 Trimethylbenzene	95-63-6	5 -- 11	25 ppm	25 ppm
1,3,5 Trimethylbenzene	108-67-8	1 -- 4	25 ppm	25 ppm

* - respirable fraction

SECTION 3: Physical/Chemical Characteristics

APPEARANCE & ODOR: colored viscous liquid, solvent odor
VOC (Volatile Organic Content): 340g/L (2.8 lb./gal.) admixed 1:1 by volume with component A (maximum)
WT/GAL.: 10.8 – 11.3 Lbs.
SPECIFIC GRAVITY: 1.29 – 1.35
VAPOR PRESSURE: 4.4 mmHg at 68 °F*
VAPOR DENSITY: NA (Air = 1)
BOILING RANGE: 308–335°F (153–168°C) at 760 mmHg*
* - for Aromatic Hydrocarbon

SECTION 4: Fire and Explosion Hazard Data

HMS: H-2 F-2 R-0 PE-F

US DOT Category: Flammable Liquid
Flashpoint (TCC): 100°F (38°C)
Hazard Class: 3
Explosive Limit: for aromatic hydrocarbon
LEL:1.0% UEL: 7.0%
ID No.: UN-1263
Packaging Group: III

EXTINGUISHING MEDIA: Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical, or universal aqueous film forming foam).

UNUSUAL FIRE AND EXPLOSION HAZARDS: May generate toxic or irritating combustion products. Vapor forms explosive mixtures with air. Most vapors heavier than air. May generate Carbon Monoxide gas.

SPECIAL FIRE FIGHTING PROCEDURES: Water spray may be ineffective. Water spray may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable. Fire fighters should wear self-contained breathing apparatus and chemical-resistant, personal protective equipment.

SECTION 5: Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Not expected to occur.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: (from burning, heating or reaction with other materials). Carbon Monoxide in a fire. Carbon Dioxide in a fire.

INCOMPATIBILITY (Materials and Conditions to Avoid): Avoid contact with oxidizing agents (i.e. Perchlorates, nitrates, etc), reactive metals (i.e. sodium, calcium, zinc ext.), sodium, calcium hypochlorite, and heat. Reaction with peroxides may result in violent decomposition of peroxides possibly creating an explosion. Material reaction with hydroxyl compounds.

SECTION 6: Spill or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb liquid with vermiculite, floor absorbent or other absorbent material and transfer to hood. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to

clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. **WASTE DISPOSAL METHOD (Small Spill):** Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood duct work. Dispose of remaining material in accordance with applicable regulations. **(Large Spill):** Incinerate in approved facility. Dispose in accordance with local, state and federal regulations.

SECTION 7: Health Hazard Data

ROUTES OF EXPOSURE: Eye contact, skin contact, inhalation.
HEALTH HAZARDS: Eye irritant. Respiratory tract irritant. Skin irritant. May cause skin sensitization. May cause central nervous system depression.
ACUTE EFFECT: Contact with skin may cause dryness, itching and/or rash. Inhalation of mists or vapors may cause irritation in the respiratory tract. Contact with the eyes causes severe eye irritation. Product is absorbed through the skin and may cause nausea, headache and general discomfort.
LONG TERM EXPOSURE: Repeat or prolonged exposure may result in adverse respiratory effect (such as cough, tightness of chest or shortness of breath), adverse eye effect (such as

Conjunctivitis, or corneal damage). Repeated exposure to vapors may cause sore throat and eye irritation.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: May cause allergic skin reaction/sensitization.
SIGNS AND SYMPTOMS OF OVEREXPOSURE: Symptoms from inhalation, eye or skin exposure, or absorption through skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), redness and itching, irritation (eye, nose, throat, airways), or central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness).
CARCINOGENICITY: This product does not contain known carcinogens in concentration of 0.1 percent or greater under OSHA, NTP, or IARC.

SECTION 8: First Aid Procedures

INGESTION: If swallowed seek immediate medical attention. If individual is drowsy or unconscious do not give anything by mouth. Do not induce vomiting unless directed to do so by medical personnel. Do not leave individual unattended.
EYE CONTACT: In case of eye contact, flush eyes immediately with plenty of water for at least 15 minutes. Seek immediate medical attention.
SKIN CONTACT: Remove contaminated clothing. Flush exposed area with large amount of water, launder clothing before reuse. If skin is irritated, seek immediate medical attention.

INHALATION: If affected by inhalation of vapor or spray mist, remove to fresh air. Apply artificial respiration and other supportive measures as required. If symptoms develop, seek medical aid.
OTHER: If ingested or symptoms of overexposure occurs, contact a poison control center (800) 854-6813, emergency room or physician immediately; have Material Safety Data Sheet information available.

SECTION 9: Protection Information

RESPIRATORY PROTECTION: If workplace exposure limit(s) of product or any component is exceeded (see section II), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.
VENTILATION: Provide sufficient mechanical

(general and/or local exhaust) ventilation to maintain exposure below TLV(s).
PROTECTIVE GLOVES: Wear gloves resistant to chemicals listed in Section 2.
EYE PROTECTION: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.
OTHER PROTECTIVE EQUIPMENT: To prevent repeated or prolonged skin contact, wear impervious clothing and proper footwear.

SECTION 10: Special Precautions

HANDLING: Avoid contact with skin or eyes, avoid breathing vapors. Handle in well ventilated work space and prevent buildup of vapors, especially in low lying areas. Do not eat, drink or smoke when handling. Empty container may contain explosive vapor. Remove all potential sources of ignition from vicinity when handling. All containers should be grounded or bounded when material is transferred. Smoking in the area is prohibited. Avoid using in any spray application without strict conformance to all applicable electrical codes and the OSHA limit for maximum allowable airborne concentrations.

STORAGE: Keep container closed when not in use. Keep away from oxidizers, heat, flames, and sparks. Keep in cool, dry ventilated storage area, and store away from ignition sources.
OTHER PRECAUTIONS: This material is part of a two component system. Read the Material Safety Data Sheet for the other component. Any resulting mixture from blending both components may have the hazards of both parts.
STATE AND LOCAL REGULATIONS: **California Proposition 65** WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 11: Transportation Information

DOT PROPER SHIPPING NAME: **PAINT**
 DOT UN NUMBER: **1263**

DOT HAZARD CLASS: **3**
 PACKING GROUP: **III**

OTHER INFORMATION

DISCLAIMER: The material in this Material Safety Data Sheet (MSDS) is, to the best of our knowledge, accurate as of the date issued. However, neither STIC-ADHESIVE nor any of its subsidiaries or agents assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist. Given the quantity of variables that affect use and application of our products, many of which are within the user's control and unique to each user's knowledge, STIC-ADHESIVE MAKES NO

WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE.