



Aviation Devices & Electronic Components, L.L.C.  
1810 Mony Street  
Fort Worth, TX 76102

Phone: 817-738-9161  
FAX: 817-738-9163

---

**MATERIAL SAFETY DATA SHEET**

**Date Prepared: 06-27-02**  
**Revision: C, Revision Date: 06-05-06**

---

**SECTION I**

**Product Name:** TS1228, HARDENER

**Emergency Contact:** 817-738-9161, available hours 8 a.m. to 5 p.m. CT.

**SECTION II Hazardous Ingredients/Identity Information**

**Trade secret.** This particular mixture of ingredients performs in a unique manner and provides special attributes not available competitively. Safety precautions listed are stated to the best of our knowledge in accordance with the terms of the hazard communication standard.

No exposure limit has been established for this product. However, the following limits apply for product constituents:

All available safety or hazard data will be released in the event of a medical emergency, or as requested by authorized agents within the guidelines of the hazard communication standard.

<b>VOC (Volatile Organic Compounds)</b>	<b>None</b>
<b>HAPS (Hazardous Air Pollutants)</b>	<b>N/A **</b>

\*\* N/A—HAPS rating is a function of VOC level

**SECTION III Physical Characteristics**

Boiling point	No data.
Vapor pressure (mm Hg)	No data.
Vapor density (air = 1)	No data.
Solubility in water	Negligible
Specific gravity (Water = 1)	0.96
Appearance	Amber colored liquid.
Odor	Mild musty odor.
Melting point	No data.

## SECTION IV Fire and Explosion Hazard Data.

**Flash point (COC method):** >200 degrees Fahrenheit.

**Flammable limits:** No data.

**LEL:** No data.

**UEL:** No data.

**Extinguishing media:** Carbon dioxide, dry chemical, water spray.

**Special fire fighting procedures:** Use self-contained breathing apparatus.

**Unusual fire and explosion hazards:** Decomposition and combustion products may be toxic.

## SECTION V Reactivity Data

**Stability:** Stable

**Conditions to avoid:** Excessive heat.

**Incompatibility (materials to avoid):** Oxidizers.

**Hazardous decomposition or byproducts:** Carbon dioxide, carbon monoxide, aldehydes.

**Hazardous polymerization:** Will not occur.

## SECTION VI Health Hazard Data

**Primary route(s) of entry:** Skin.

**Health hazards (acute and chronic):** Ingestion toxicity is low. Single inhalation exposure is not likely to be hazardous. Skin contact may cause slight irritation in some individuals. Eye contact may cause slight irritation. There is no information regarding chronic exposure.

**Carcinogenicity:** NTP Not Listed.

IARC Monographs: Not included.

OSHA regulated: No.

**Signs and symptoms of exposure:** Conjunctiva redness. Nausea if swallowed.

**Medical conditions generally aggravated by exposure:** None known for this product.

**Emergency and first aid procedures:** Call a physician. If on skin, remove contaminated clothing. Flush with water for 15 minutes. Wash with mild soap and water. If irritation develops, see a physician.

If in eye, immediately flush with water for at least 15 minutes. Hold eyelids open. Flush only. See an eye physician promptly.

If inhaled, promptly remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

If swallowed and conscious, give water or milk to dilute. Do not induce vomiting. Keep head below hips. Give fluids again. Have medical personnel determine if stomach evacuation or vomiting is necessary.

## SECTION VII Precautions for Safe Handling and Use

**Steps to be taken in case material is released or spilled:** Remove sources of ignition. Avoid direct contact. Recover uncontaminated material for use. Absorb residue on commercial waste absorbent. Put in closable container for disposal. Flush contaminated area with water. Prevent runoff to sewer or waterway.

**Waste disposal method:** Follow approved federal, state, and local regulations.

**Precautions to be taken in handling and storing:** CAUTION—May cause eye irritation. Do not leave containers open. Avoid contact with eyes, skin, or clothing. Do not breathe mists or vapors. Do not discharge to open water.

**Other precautions:** Store in a cool, well-ventilated area.

## SECTION VIII Control Measures

**Respiratory protection:** NIOSH-approved respirator for organic vapors, usually not needed.

**Ventilation:** Local exhaust preferred. Mechanical (general) may be adequate.

**Other:** Usually not needed.

**Protective gloves:** Impervious gloves (polyethylene).

**Eye protection:** Use splash-proof goggles.

**Other protective clothing or equipment:** Eye wash.

**Work/hygienic practices:** Maintain good housekeeping. Wash contaminated clothing before reuse.  
Store away from foodstuffs and animal feed.

## Section IX Regulatory Information

**TSCA Status:** All components of this product are listed, or exempt from listing, on the Toxic Substances Control Act (TSCA) inventory.

**SARA-313 Listed Chemicals:** None.

**RCRA Hazardous Waste Number:** N/A.

**CERCLA:** No. **Reportable Quantity:** N/A.

Hazard Ratings	Health	Fire	Reactivity
HMIS	2	1	1

**Use:** 21CFR 177.1680

**D.O.T.:** Not regulated for transportation.

***Aviation Devices & Electronic Components L.L.C.(Av-Dec) believes that the information contained herein is true and accurate as of the date of issue. No warranty expressed or implied is made concerning the information provided herein. Further, since the conditions and methods of use are beyond the control of Av-Dec, Av-Dec expressly disclaims any and all liability as to any results obtained or arising from any use of this product or reliance on such information.***



Aviation Devices & Electronic Components, L.L.C.  
1810 Mony Street  
Fort Worth, TX 76102

Phone: 817-738-9161  
FAX: 817-738-9163

**MATERIAL SAFETY DATA SHEET**

**Date Prepared: 06-27-02**  
**Revision: C, Revision Date: 06-05-06**

**SECTION I**

**Product Name:** TS1228, RESIN

**Emergency Contact:** 817-738-9161, available hours 8 a.m. to 5 p.m. CT.

**SECTION II Hazardous Ingredients/Identity Information**

**Trade secret.** This particular mixture of ingredients performs in a unique manner and provides special attributes not available competitively. Safety precautions listed are stated to the best of our knowledge in accordance with the terms of the hazard communication standard.

No exposure limit has been established for this product. However, the following limits apply for product constituents:

CAS	Chemical Name	Amount
10168-8	4,4' Diphenymethane Diisocyanate ACGIH: TLV, TWA, 0.005 ppm OSHA: PEL, Ceiling, 0.02 ppm	60 to 75 per cent
26447-40-5	MDI Mixed Isomers TLV/PEL Not established.	< 1 per cent

All available safety or hazard data will be released in the event of a medical emergency, or as requested by authorized agents within the guidelines of the hazard communication standard.

This information must be included in all MSDS's that are copied and distributed for this product. The exact concentration is a trade secret.

<b>VOC (Volatile Organic Compounds)</b>	<b>None</b>
<b>HAPS (Hazardous Air Pollutants)</b>	<b>N/A **</b>

\*\* N/A—HAPS rating is a function of VOC level

### SECTION III Physical Characteristics

Boiling point	No data.
Vapor pressure (mm Hg)	No data.
Vapor density (air = 1)	No data.
Solubility in water	Reacts.
Specific gravity (Water = 1)	1.18
Appearance	Amber liquid.
Odor	Mild musty odor.
Melting point	No data.

### SECTION IV Fire and Explosion Hazard Data.

**Flash point (COC method):** >200 degrees Fahrenheit.

**Flammable limits:** No data.

**LEL:** No data.

**UEL:** No data.

**Extinguishing media:** Alcohol foam, carbon dioxide, dry chemical.

**Special fire fighting procedures:** Use self-contained breathing apparatus.  
Use water spray to cool fire-exposed containers and disperse unignited vapors.

**Unusual fire and explosion hazards:** Decomposition and combustion products may be toxic.

### SECTION V Reactivity Data

**Stability:** Stable

**Conditions to avoid:** High humidity; contact with hydrogen donors in a closed system, excessive heat.

**Incompatibility (materials to avoid):** Bases, alcohols, or other hydrogen donors such as moisture or water.

**Hazardous decomposition or byproducts:** Carbon dioxide, carbon monoxide, organics of unknown composition, nitrogen oxides.

**Hazardous polymerization:** May occur.

## SECTION VI Health Hazard Data

**Primary route(s) of entry:** Inhalation, skin, ingestion.

**Health hazards (acute and chronic):** Acute: Skin, eye, and mucous membrane irritation. May cause allergic sensitization characterized by asthmatic-like breathing.

Chronic: May cause allergic sensitization to skin and respiratory tract.

**Carcinogenicity:** NTP Not Listed.

IARC Monographs: Not included.

OSHA regulated: No.

**Signs and symptoms of exposure:** Skin, eye, and mucous membrane irritation, allergic response.

**Medical conditions generally aggravated by exposure:** Chronic pulmonary disease or allergic history.

**Emergency and first aid procedures:** Call a physician. If on skin, remove contaminated clothing. Flush with water for 15 minutes. Wash with mild soap and water. For persistent irritation, see a physician.

If in eye, immediately flush with water for at least 15 minutes. Hold eyelids open. Flush only. See an eye physician promptly.

If inhaled, promptly remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

If swallowed and conscious, give water or milk to dilute. Do not induce vomiting. Never give fluids if victim is unconscious or having convulsions. Call a physician.

## SECTION VII Precautions for Safe Handling and Use

**Steps to be taken in case material is released or spilled:** Remove sources of ignition. Avoid direct contact. Recover uncontaminated material for use. Put in approved container for disposal. Do not seal. Remove to fresh air and seal after 24 hours. Clean small amounts with 85 per cent water, 10 per cent isopropyl alcohol, and 5 per cent ammonia. Flush contaminated area with water. Prevent runoff to sewer or waterway.

**Waste disposal method:** Incineration where permitted under federal, state, and local regulations.

**Precautions to be taken in handling and storing:** May cause eye, skin, and mucous irritation. May cause sensitization. Possible allergic response. Store in a cool, well ventilated, dry area. Do not leave containers open. Avoid contact with eyes, skin, or clothing. Do not breathe mists or vapors. Wash thoroughly after handling.

## SECTION VIII Control Measures

**Respiratory protection:** NIOSH-approved respirator for organic vapors. Due to the nature of this product, isocyanate levels should not exceed 0.02 ppm, therefore the use of a respirator is not required for normal product use.

**Ventilation:** Local exhaust preferred, and required if material is heated or sprayed. Mechanical (general) may be acceptable.

**Special:** Keep air below 0.02 ppm isocyanate.

**Other:** Usually not needed.

**Protective gloves:** Impervious gloves (polyethylene).

**Eye protection:** Use splash-proof goggles.

**Other protective clothing or equipment:** Apron, eye wash, safety shower, fire extinguisher.

**Work/hygienic practices:** Maintain good housekeeping. Wash thoroughly before eating, drinking, or smoking. Wash contaminated clothing before reuse. Destroy contaminated leather. Store away from foodstuffs and animal feed.

## Section IX Regulatory Information

**TSCA Status:** All components of this product are listed, or exempt from listing, on the Toxic Substances Control Act (TSCA) inventory.

**SARA-313 Listed Chemicals:** CAS: 101-68-8  
Name: Diisocyanates  
Amount: 60 to 75 per cent.

**RCRA Hazardous Waste Number:** N/A.

**CERCLA:** Yes. **Reportable Quantity:** 5000 lbs.

Hazard Ratings	Health	Fire	Reactivity
HMIS	2	1	1

**Use:** 21CFR 177.1680

**D.O.T.:** Not regulated for transportation.

**Aviation Devices & Electronic Components L.L.C.(Av-Dec) believes that the information contained herein is true and accurate as of the date of issue. No warranty expressed or implied is made concerning the information provided herein. Further, since the conditions and methods of use are beyond the control of Av-Dec, Av-Dec expressly disclaims any and all liability as to any results obtained or arising from any use of this product or reliance on such information.**