



Aviation Devices & Electronic Components, L.L.C.
3215 W Loop 820 S
Fort Worth, TX 76116
Phone: 817-738-9161
FAX: 817-738-9163

SAFETY DATA SHEET

SECTION 1: Identification

Product Name: TS1228, Hardener
Manufacturer: Aviation Devices & Electronic Components, L.L.C. (Av-DEC)
3215 W Loop 820 S
Fort Worth, TX 76116
Emergency Contact: 817-738-9161, available hours 8 a.m. to 5 p.m. CT.
Recommended Use: Polyurethane component; industrial chemicals.

SECTION 2: Hazardou(s) Identification

Physical hazards: Not classified.
Health hazards: Not classified.
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.

Label elements:

Hazard symbol: None.
Signal word: None.
Hazard statement: The mixture does not meet the criteria for classification.
Precautionary statement:
Prevention: Observe good industrial hygiene practices.
Response: Wash hands after contact/handling.
Storage: Store away from incompatible materials and at or above 55 degrees Fahrenheit.
Disposal: Dispose of waste in accordance with local requirements.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

SECTION 3: Composition/Information on Ingredients

CAS Number	Content (W/W)	Chemical Name
No CAS Numbers Available for this product.		

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.

SECTION 4: First-Aid Measures

General advice: Remove contaminated clothing.
If inhaled: Remove to fresh air. Assist in breathing if necessary.
If on skin: Wash affected areas with soap and water.
If in eyes: Rinse immediately with water for 15 minutes. Seek medical attention if necessary.
If swallowed: Rinse mouth with water and then drink water or milk to dilute. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention required.
Most important symptoms/effects, acute and delayed: Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed: Treat symptomatically.



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SECTION 5: Fire-Fighting Measures

Suitable extinguishing media: Foam, carbon dioxide, dry chemical.

Unsuitable extinguishing media: No known unsuitable extinguishing media.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Use self-contained breathing apparatus. Use water spray to cool fire-exposed containers and disperse unignited vapors.

Firefighting equipment/instructions: Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

SECTION 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Ensure adequate ventilation. Wear suitable personal protective clothing.

Methods and materials for containment and cleaning up:

Large spills: Stop the flow of material. Absorb with dry absorbent, dry sand, or earth and place in containers.

Small spills: Wipe up with cloth. Clean surface to remove residual contamination.

Environmental precautions: Avoid discharge into drains or onto the ground.

SECTION 7: Handling and Storage

Precautions for safe handling: Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store in tightly closed container. Store away from any incompatible materials.

SECTION 8: Exposure Controls/Personal Protection

Personal protective equipment:

Respiratory protection: Generally not needed when used as indicated. For emergency, high exposure situations, use a NIOSH-certified respirator.

Hand protection: Use barrier cream or chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

Body Protection: Prevent contact with skin.

General safety and hygiene measures: Wear protective clothing to prevent contact. Eye wash stations should be accessible. Wash soiled clothing. Clean contaminated equipment after use.

Section 9: Physical and Chemical Properties

Form: Liquid.

Odor: Mild musty odor.

Odor threshold: Not applicable.

Color: Amber.

pH Value: Not applicable.

Melting/Freezing point: Not applicable.

Boiling point: Not Applicable.

Sublimation point: No applicable information available.



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Flash Point: >200 degrees Centigrade.
Flammability: Not Flammable.
Lower exposure limit: Not relevant for classification and labeling.
Upper exposure limit: Not relevant for classification and labeling.
Auto-ignition: No relevant data available.
Vapor pressure: No data available.
Density: 0.96 g/ml @ 25 degrees centigrade.
Relative density: Not applicable.
Vapor density: Not applicable.
Partitioning coefficient n-octanol/water (log Pow): Not applicable.
Self-ignition temperature: Not self-igniting.
Thermal decomposition: No decomposition if stored and handled as indicated.
Viscosity: 700 to 1,200 cps.
Solubility in water: Negligible
Evaporation rate: Does not evaporate.
Decomposition temperature: Not applicable.

Section 10: Stability and Reactivity

Reactivity: This product is stable in its supplied form. No corrosive effects on metal.
Chemical stability: This product is stable if stored and handled as indicated.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Contact with incompatible materials.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: No decomposition if handled as indicated.

Section 11: Toxicological Information

Primary routes of exposure:

Inhalation: No known adverse effects from inhalation when used as indicated.
Skin contact: No adverse effects due to skin contact are expected.
Eye contact: Direct contact with eyes may cause temporary irritation.
Ingestion: Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical, and toxicological characteristics: Direct contact with eyes may cause temporary irritation.

Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization:

Respiratory sensitization: Not a respiratory sensitizer.
Skin sensitization: Not expected to cause skin sensitization.

Germ cell mutagenicity: No data available to indicate product is mutagenic or genotoxic.

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity: Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens: Not available.

Reproductive toxicity: This product is not expected to cause reproductive or development effects.

Specific target organ toxicity, single exposure: Not classified.

Specific target organ toxicity, repeated exposure: Not classified.

Aspiration hazard: Not an aspiration hazard.



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Chronic effects: Prolonged inhalation may be harmful.

Section 12: Ecological Information

Ecotoxicity: This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large spills can have a harmful effect on the environment.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

Section 13: Disposal Considerations

Disposal instructions: Collect and reclaim or dispose in approved containers at licensed disposal site.

Local disposal regulations: Dispose in accordance with applicable regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user and the waste disposal company.

Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers may retain product residues.

Contaminated packaging: Empty containers should be taken to an approved site for disposal.

Section 14: Transport Information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not established.

Section 15: Regulatory Information

US federal regulations: This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA):

Hazard categories: Immediate Hazard: No

Delayed Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: No

SARA 313 (TRI reporting): Not regulated.

Other federal regulations:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.



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Safe Drinking Water Act (SDWA): Not regulated.

US state regulations:

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100): Not listed.

US. Massachusetts RTK – Substance List: Not listed.

US. New Jersey Worker and Community Right-to-Know Act: Not listed.

US. Pennsylvania Worker and Community Right-to-Know Act: Not listed.

US. Rhode Island RTK: Not listed.

US. California Proposition 65: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories:

Country(s) or region:	Inventory name:	On inventory: (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

* “Yes” indicates that components of this product comply with the inventory requirements administered by the governing county(s).

* “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing county(s).

Section 16: Other Information

Issue date: 12-02-2016

Revision: _G_

Disclaimer: *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.*



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SECTION 1: Identification

Product Name: TS1228, Resin
Manufacturer: Aviation Devices & Electronic Components, L.L.C. (Av-DEC)
3215 W Loop 820 S
Fort Worth, TX 76116
Emergency Contact: 817-738-9161, available hours 8 a.m. to 5 p.m. CT.
Recommended Use: Polyurethane component; industrial chemicals.

SECTION 2: Hazardou(s) Identification

Physical hazards: Not classified as physical hazard according to 2012 OSHA Hazard Communication Standard:
29 CFR1910.1200

Health hazards: Not classified.

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements:



Hazard symbol:

Signal word: Warning.

Hazard statement: Causes minor skin irritation. Causes eye irritation.

Hazard codes:

H316: Causes mild skin irritation.

H320: Causes eye irritation.

Precautionary statement:

Prevention: Observe good industrial hygiene practices.

Response: Wash hands after contact/handling.

Storage: Store away from incompatible materials and at or above 55 degrees Fahrenheit.

Disposal: Dispose of waste in accordance with local requirements.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

SECTION 3: Composition/Information on Ingredients

CAS Number	Content (W/W)	Chemical Name
*101-68-8	60-75 %	Diphenylmethane-4,4'-diisocyanate (MDI)

* This material is present in the form of a MDI pre-polymer and does not have specific hazards associated with the mixture in its supplied form.

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.



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SECTION 4: First-Aid Measures

General advice: Remove contaminated clothing.

If inhaled: Remove to fresh air. Assist in breathing if necessary.

If on skin: Wash affected areas with soap and water.

If in eyes: Rinse immediately with water for 15 minutes. Seek medical attention if necessary.

If swallowed: Rinse mouth with water and then drink water or milk to dilute. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention required.

Most important symptoms/effects, acute and delayed. Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed. Treat symptomatically.

SECTION 5: Fire-Fighting Measures

Suitable extinguishing media: Foam, carbon dioxide, dry chemical.

Unsuitable extinguishing media: No known unsuitable extinguishing media.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Use self-contained breathing apparatus. Use water spray to cool fire-exposed containers and disperse unignited vapors.

Firefighting equipment/instructions: Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

SECTION 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Keep unnecessary personnel away. Ensure adequate ventilation. Wear suitable personal protective clothing.

Methods and materials for containment and cleaning up

Large spills: Stop the flow of material. Absorb with dry absorbent, dry sand, or earth and place in

Small spills: Wipe up with cloth. Clean surface to remove residual contamination.

Environmental precautions: Avoid discharge into drains or onto the ground.

SECTION 7: Handling and Storage

Precautions for safe handling: Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store in tightly closed container. Store away from any incompatible materials.

SECTION 8: Exposure Controls/Personal Protection

Personal protective equipment

Respiratory protection: Generally not needed when used as indicated. For emergency, high exposure situations, use a NIOSH-certified respirator.

Hand protection: Use barrier cream or chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

Body Protection: Prevent contact with skin.

General safety and hygiene measures: Wear protective clothing to prevent contact. Eye wash stations should be accessible. Wash soiled clothing. Clean contaminated equipment after use.



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Section 9: Physical and Chemical Properties

Form: Liquid.
Odor: Mild musty odor.
Odor threshold: Not applicable.
Color: Dark Amber.
pH Value: Not applicable.
Melting/Freezing point: Not applicable.
Boiling point: Not Applicable.
Sublimation point: No applicable information available.
Flash Point: >200 degrees Centigrade.
Flammability: Not Flammable.
Lower exposure limit: Not relevant for classification and labeling.
Upper exposure limit: Not relevant for classification and labeling.
Auto-Ignition: No relevant data available.
Vapor pressure: No data available.
Density: 1.16 g/ml @ 25 degrees centigrade.
Relative density: Not applicable.
Vapor density: Not applicable.
Partitioning coefficient n-octanol/water (log Pow): Not applicable.
Self-ignition temperature: Not self-igniting.
Thermal decomposition: No decomposition if stored and handled as indicated.
Viscosity: 75 to 250 cps.
Solubility in water: Reacts
Evaporation rate: Does not evaporate.
Decomposition temperature: Not applicable.

Section 10: Stability and Reactivity

Reactivity: This product is stable in its supplied form. No corrosive effects on metal.
Chemical stability: This product is stable if stored and handled as indicated.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Contact with incompatible materials. Avoid moisture.
Incompatible materials: Strong oxidizing agents, amines, alcohols, water.
Hazardous decomposition products: No decomposition if handled as indicated.

Section 11: Toxicological Information

Primary routes of exposure:

Inhalation: No known adverse effects from inhalation when used as indicated.
Skin contact: Although unexpected, prolonged contact with skin may cause minor irritation.
Eye contact: Direct contact with eyes may cause temporary irritation.
Ingestion: Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical, and toxicological characteristics: Direct contact with eyes may cause temporary irritation.

Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization: Not a respiratory sensitizer.



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Skin sensitization: Not expected to cause skin sensitization.

Germ cell mutagenicity: No data available to indicate product is mutagenic or genotoxic.

Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity: Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens: Not available.

Reproductive toxicity: This product is not expected to cause reproductive or development effects.

Specific target organ toxicity, single exposure: Not classified.

Specific target organ toxicity, repeated exposure: Not classified.

Aspiration hazard: Not an aspiration hazard in supplied form.

Chronic effects: Prolonged inhalation may be harmful.

Section 12: Ecological Information

Ecotoxicity: This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large spills can have a harmful effect on the environment.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

Section 13: Disposal Considerations

Disposal instructions: Collect and reclaim or dispose in approved containers at licensed disposal site.

Local disposal regulations: Dispose in accordance with applicable regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user and the waste disposal company.

Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers may retain product residues.

Contaminated packaging: Empty containers should be taken to an approved site for disposal.

Section 14: Transport Information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not established.

Section 15: Regulatory Information

US federal regulations: This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories: Immediate Hazard: No



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Delayed Hazard: No
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: No

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: No

SARA 313 (TRI reporting): Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act (SDWA): Not regulated.

US state regulations:

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100): Not listed.

US. Massachusetts RTK – Substance List: Not listed.

US. New Jersey Worker and Community Right-to-Know Act: Not listed.

US. Pennsylvania Worker and Community Right-to-Know Act: Not listed.

US. Rhode Island RTK: Not listed.

US. California Proposition 65: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain chemicals listed as carcinogens or reproductive toxins at levels which would require a warning under the statute.

International Inventories:

Country(s) or region:	Inventory name:	On inventory: (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

* "Yes" indicates that components of this product comply with the inventory requirements administered by the governing county(s).

* "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing county(s).



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Section 16: Other Information

Issue date: 12-02-2016

Revision: _G_

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