

**1.0 IDENTIFICATION OF PRODUCT AND COMPANY:**

Product Name: Adhesive, Conductive Silver Epoxy Part A  
Product Type: Mixture

**Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses: Adhesive

**Supplier:** Dayton-Granger, Inc.  
3299 SW 9<sup>th</sup> Avenue  
Fort Lauderdale, FL 33315  
(954)463-3451  
[sales@daytongranger.com](mailto:sales@daytongranger.com)

**Emergency Telephone Number:** Chemtrec US 1-800-424-9300  
Outside US: 1-703-527-3887

**2.0 HAZARD IDENTIFICATION:**

Classification of substance or mixture: Classification according to GHS formatting

**WARNING!**

Skin Irritation	Category 2
Eye Irritation	Category 2A
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
STOT – Single Exposure	Category 3 (Respiratory tract irritation)

**Label Elements:**



**Hazard statement(s)**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing genetic defects.

**Precautionary Statement(s)**

**Prevention:**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed outside the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**  
 P302+P352 IF ON SKIN: wash with soap and water.  
 P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.  
 P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P333+P313 If skin irritation or rash occurs: get medical advice/attention.  
 P363 Wash contaminated clothing before reuse.  
 P391 Collect spillage.

**Storage:**  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P405 Store locked up.

**Disposal:**  
 P501 Dispose of contents/container to an approved waste disposal plant.

**Other hazards:** None.

**3.0 COMPOSITION/INFORMATION ON INGREDIENTS**

Substances:

MATERIAL	CAS No.	%
Silver	7440-22-4	65 – 75
Epoxy resin	Proprietary	20 – 30
Epoxy diluent	Proprietary	5– 10

**4.0 FIRST AID MEASURES:**

Description of first aid measures:

**In case of eye contact** Immediately wash eyes with running water for 15 minutes. Get immediate medical attention.

**In case of skin contact** Remove contaminated clothing/shoes and wash affected areas with water followed by washing with soap and water. If irritation occurs, get medical attention. Launder contaminated clothing before reuse.

**If swallowed** **DO NOT INDUCE VOMITING.** Dilute with water or milk and call a physician immediately. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

**If inhaled** Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**Most important symptoms and effects, both acute and delayed:** No data available

**Indication of any medical attention and special treatment needed:** No data available

**5.0 FIRE FIGHTING MEASURES:**

**Extinguishing Media**

**Suitable extinguishing media:** Use water fog, alcohol foam, CO<sub>2</sub> or dry chemical extinguishing media.

**Special hazards arising from the substance or mixture:** Carbon oxides

**Advice for firefighters:** Material will not burn unless preheated. Firefighters should not enter confined space without full bunker gear (helmet with face shield, bunker-coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

**Further information:** Not available

**6.0 ACCIDENTAL RELEASE MEASURES:**

**Personal precautions, protective equipment, and emergency procedures:**

Extinguish all sources of ignition. Wear appropriate clothing, gloves, goggles or glasses. Provide adequate ventilation.

**Environmental Precautions:**

Do not discharge into any sewage system or waterway.

**Methods and materials for containment and cleanup:**

Absorb with earth, sand, or other inert material and place in suitable containers for disposal.

**Reference to other sections:**

For disposal see section 13.

**7.0 HANDLING AND STORAGE:**

**Precautions for safe handling:**

Observe normal standards of industrial hygiene for handling chemicals. Avoid contact with skin and eyes

**Conditions for safe storage, including incompatibilities:**

Store in a cool, dry, well-ventilated area. Keep containers tightly closed and away from heat, direct sunlight and ignition sources. This material can be stored at room temperature, 25°C.

**Specific end uses:**

Including but not limited to: bonding operations.

**8.0 EXPOSURE CONTROLS And PERSONAL PROTECTION:**

**Control Parameters:**

**Components with control parameters**

MATERIAL	LIMIT VALUES
*Silver	TLV: 0.1 mg/m <sup>3</sup> (as dust)

\*\*\* Indicates that this material is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 et. seq. if present at greater than 1%.

**Exposure controls**

**Appropriate engineering controls**

Mechanically exhaust vapors at points of application. Maintain airborne contaminant levels of chemicals below their recommended TLV's or PEL's.

**Personal protective equipment**

**Skin Protection**

Avoid prolonged or repeated contact with skin. Wear impervious gloves such as nitrile, latex, or polychloroprene and other clothing to prevent contact.

**Respiratory Protection**

For confined areas or areas with poor ventilation, use an approved cartridge type, organic vapor respirator.

Eye Protection                      Chemical goggles or safety glasses with side shields

Protective Clothing                Impervious gloves, coveralls, apron, boots as necessary to prevent skin contact.

## 9.0 PHYSICAL AND CHEMICAL PROPERTIES:

### Information on basic physical and chemical properties:

<b>Form:</b>	Paste
<b>Color:</b>	Silver
<b>Odor:</b>	Slight odor
<b>Odor Threshold:</b>	Not determined
<b>pH:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined
<b>Boiling Point:</b>	> 200°C
<b>Flash Point:</b>	Not determined
<b>Evaporation Rate:</b>	Not determined
<b>Flammability (solid, gas):</b>	Not determined
<b>Upper/Lower Flammability Limits:</b>	Upper: Not determined Lower: Not determined
<b>Vapor Pressure @ 20°C:</b>	Not determined
<b>Vapor Density:</b>	Heavier than air
<b>Specific Gravity (water=1):</b>	3.04 (calculated)
<b>Solubility in Water:</b>	Negligible
<b>Partition coefficient: n-octanol/water</b>	Not determined
<b>Auto-ignition Temperature:</b>	Not determined
<b>Decomposition Temperature:</b>	Not determined
<b>Viscosity (25°C):</b>	135,000 – 280,000 cps
<b>Explosive Properties:</b>	Not determined
<b>Oxidizing Properties:</b>	Not determined
<b>Volatiles (by % wt.):</b>	Negligible

### Other safety information:

No data available

## 10.0 STABILITY AND REACTIVITY:

### Reactivity:

No data available

### Chemical Stability:

Stable under normal conditions.

### Possibility of hazardous reactions:

Can react vigorously with strong oxidizing agents, strong Lewis acids or mineral acids, and strong mineral and organic bases

### Conditions to avoid:

Storage in open containers, sources of ignition, high temperatures and direct sunlight.

### Incompatible materials:

Strong oxidizing agents, strong Lewis acids or mineral acids, and strong mineral and organic bases

**Hazardous decomposition products:**

Carbon monoxide, aldehydes, acids, and other organic substances can be formed during combustion, thermal, or oxidative decomposition. Reaction with some curing agents may produce considerable heat.

**11.0 TOXICOLOGICAL INFORMATION:**

**Acute Toxicity**

No data available on product itself.

**ATE, mix**

LD50, oral = > 5,000 mg/kg

LD50, dermal = > 2,000 mg/kg

**Skin Corrosion/Irritation**

No data available.

**Serious Eye Damage/Irritation**

No data available.

**Sensitization**

No data available.

**Specific Target Organ Toxicity – Single Exposure (STOT – SE)**

No data available.

**Specific Target Organ Toxicity – Repeated Exposure (STOT – RE)**

No data available.

**Carcinogenicity**

No data available.

ACGIH Classification: Not classified.

IARC Classification: Not classified.

NTP Classification: Not classified.

OSHA Classification: Not classified.

**Teratogenicity, Reproductive Toxicity, and Mutagenicity**

Suspected of causing genetic defects.

Direct-acting mutagen in strains TA 1535 and TA 100 but was not mutagenic in TA 98.

**Aspiration Hazard**

No data available.

**12.0 ECOLOGICAL INFORMATION:**

**Toxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available





**SAFETY DATA SHEET**  
**DG PN 16307**  
**Adhesive, Conductive Silver Epoxy**  
**Part A**

REVISION DATE: 01/29/2019  
REVISION: J

**State Regulations California Proposition 65**

This product contains NO chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

**TSCA (Toxic Substance Control Act)**

All ingredients listed or exempt.

**Chemical Safety Assessment**

No data available

**16. OTHER INFORMATION:**

HMIS Ratings: H – 2 F – 1 R – 0

SDS prepared 29<sup>th</sup> of January 2019. Updated storage conditions and hazard statements.

**DISCLAIMER**

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. This information is offered solely for your consideration, interpretation and information. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

1.0 **PRODUCT & COMPANY IDENTIFICATION**

Product Name: Adhesive, Conductive Silver Epoxy Part B  
Product Type: Mixture

Relevant identified uses of the substance or mixture and uses advised against:  
Identified uses Curing Agent

Supplier Dayton-Granger, Inc.  
3299 SW 9<sup>th</sup> Avenue  
Fort Lauderdale, FL 33315  
(954)463-3451  
[sales@daytongranger.com](mailto:sales@daytongranger.com)

Emergency Telephone Number: Chemtrec US 1-800-424-9300  
Outside US 1-703-527-3887

2.0 **HAZARD IDENTIFICATION:**

Classification of substance or mixture: Classification according to GHS formatting

**DANGER!**

Acute Toxicity, Oral	Category 4
Acute Toxicity, Dermal	Category 4
Skin Irritation	Category 2
Skin Sensitization	Category 1
Serious Eye Damage	Category 1

Label Elements:



Hazard statement(s)

H302+H312  
H317  
H318

Harmful if swallowed or in contact with skin.  
May cause an allergic skin reaction.  
Causes serious eye damage.

Precautionary Statement(s)

Prevention:

P261  
P264  
P272  
P280

Avoid breathing dust/fume/gas/mist/vapors/spray.  
Wash hands thoroughly after handling.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves, eye, or face protection and appropriate protective equipment.



**Response:**

P301+P330+P331 P303+P361+P353 P304+P340  P305+P351+P338  P310 P333+P313	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: get medical advice/attention. Wash contaminated clothing before reuse.
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**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/container in specified waste disposal facility.

**Other hazards:**

None.

**3.0 COMPOSITION/INFORMATION on INGREDIENTS**

**Substances:**

MATERIAL	CAS No.	%
Aliphatic amine curative blend	Proprietary	>75

**4.0 FIRST AID MEASURES:**

**Description of first aid measures:**

**General advice:** Seek medical advice

**In case of eye contact -** Immediately wash eyes with running water for 15 minutes. Get immediate medical attention.

**In case of skin contact –** Remove contaminated clothing/shoes and wash affected areas with water followed by washing with soap and water. If irritation occurs, get medical attention. Launder contaminated clothing before reuse.

**If swallowed - DO NOT INDUCE VOMITING.** Dilute with water or milk and call a physician immediately. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

**If inhaled -** Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**Most important symptoms and effects, both acute and delayed:**

Target organs: Eyes.

**Indication of any medical attention and special treatment needed:**

Adverse eye effects such as conjunctivitis or corneal damage; eye disease.

**5.0 FIRE FIGHTING MEASURES:**

**Extinguishing Media**

**Suitable extinguishing media:**

Use water fog, alcohol foam, CO<sub>2</sub> or dry chemical extinguishing media.

Special hazards arising from the substance or mixture:  
Carbon oxides

**Advice for firefighters:**

Material will not burn unless preheated. Firefighters should not enter confined space without full bunker gear (helmet with face shield, bunkercoats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

**Further information:**

Not available

**6.0 ACCIDENTAL RELEASE MEASURES:**

**Personal precautions, protective equipment, and emergency procedures:**

Extinguish all sources of ignition. Wear appropriate clothing, gloves, goggles or glasses. Provide adequate ventilation.

**Environmental Precautions:**

Do not discharge into any sewage system or waterway.

**Methods and materials for containment and cleanup:**

Absorb with earth, sand, or other inert material and place in suitable containers for disposal.

**Reference to other sections:**

For disposal see section 13.

**7.0 HANDLING and STORAGE:**

**Precautions for safe handling:**

Observe normal standards of industrial hygiene for handling chemicals. Avoid contact with skin and eyes

**Conditions for safe storage, including incompatibilities:**

Store in a cool, dry, well ventilated area. Keep containers tightly closed and away from heat, direct sunlight and ignition sources. This material can be stored at room temperature, 25°C.

**Specific end uses:**

Curing Agent

**8.0 EXPOSURE CONTROLS and PERSONAL PROTECTION:**

**Control Parameters:**

**Components with control parameters:**

MATERIALS      LIMIT VALUES

None

\*\*\* Indicates that this material is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 et. seq. if present at greater than 1%.

**Exposure controls**

**Appropriate engineering controls**

Mechanically exhaust vapors at points of application. Maintain airborne contaminant levels of chemicals below their recommended TLV's or PEL's.

**Personal protective equipment**

**Skin Protection**

Avoid prolonged or repeated contact with skin. Wear impervious gloves such as nitrile, latex, or polychloroprene and other clothing to prevent contact.

**Respiratory Protection**

For confined areas or areas with poor ventilation, use an approved cartridge type, organic vapor respirator.

**Eye Protection**

Chemical goggles or safety glasses with side shields

**Protective Clothing**

Impervious gloves, coveralls, apron, boots as necessary to prevent skin contact.

**9.0. PHYSICAL and CHEMICAL PROPERTIES:**

**Information on basic physical and chemical properties:**

Appearance Form	Liquid
Color	Mostly colorless
Odor	Ammonia-like
Odor Threshold	Not determined
pH Alkaline	
Melting/Freezing point	Not determined
Boiling Point	> 200°C
Flash Point	> 175°C
Evaporation Rate	Not determined
Flammability (solid, gas)	Not determined
Upper/Lower Flammability Limits	Upper: Not determined Lower: Not determined
Vapor Pressure @ 20°C	Not determined
Vapor Density	Heavier than air
Specific Gravity (water=1)	1.03 (calculated)
Solubility in Water	Negligible
Partition coefficient: n-octanol/water	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Viscosity (25°C)	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined
Volatiles (by % wt.)	Negligible

**Other safety information:**

No data available

**10.0 STABILITY and REACTIVITY:**

**Reactivity:**

No data available

**Chemical Stability:**

Stable under normal conditions.

**Possibility of hazardous reactions:**

Can react vigorously with strong oxidizing agents, strong Lewis acids or mineral acids, and strong mineral and organic bases

**Conditions to avoid:**

Storage in open containers, sources of ignition, high temperatures and direct sunlight.

**Incompatible materials:**

Strong oxidizing agents, strong Lewis acids or mineral acids, and strong mineral and organic bases

**Hazardous decomposition products:**

Carbon monoxide, aldehydes, acids, and other organic substances can be formed during combustion, thermal, or oxidative decomposition. Reaction with some curing agents may produce considerable heat.

**11.0 TOXICOLOGICAL INFORMATION:**

**Acute Toxicity**

No data available on product itself.

**ATE, mix**

LD50, oral (rat) = > 1,900 mg/kg

LD50, dermal (rabbit) = > 1,800 mg/kg

LC50, inhalation (rat, 4h) = > 0.3 mg/L

**Skin Corrosion/Irritation**

Causes severe skin irritation (based on components).

**Serious Eye Damage/Irritation**

Causes severe eye irritation (based on components).

**Sensitization**

May cause sensitization by skin contact (based on components).

**Specific Target Organ Toxicity – Single Exposure (STOT – SE)**

No data available.

**Specific Target Organ Toxicity – Repeated Exposure (STOT – RE)**

No data available.

**Carcinogenicity**

No data available.

ACGIH Classification: Not classified.

IARC Classification: Not classified.

NTP Classification: Not classified.

OSHA Classification: Not classified.

**Teratogenicity, Reproductive Toxicity, and Mutagenicity**

No data available

**Aspiration Hazard**

No data available.

12.0 **ECOLOGICAL INFORMATION:**

**Toxicity:**

No data available on the product itself

**Persistence and degradability:**

No data available

**Bioaccumulative potential:**

No data available

**Mobility in soil:**

No data available

**Results of PBT and vPvB assessment:**

No data available

**Other information/effects:**

Do not allow discharge into drains and waterways. Avoid ground contamination.

13.0 **DISPOSAL RECOMENDATIONS:**

**Waste treatment methods:**

Place in an appropriate disposal facility in compliance with local regulations.

14.0 **TRANSPORTATION INFORMATION:**

**UN number**

None

**DOT:**

Not regulated for transport

**ADR/RID:**

Not regulated for transport

**IMG:**

Not regulated for transport

**IATA:**

Not regulated for transport

**Transport hazardous class(es)**

None

**Packaging group**

None

**Environmental hazards**

None

**Special precautions for user**

None

15.0 **REGULATORY INFORMATION:**

This safety datasheet complies with GHS formatting



**SAFETY DATA SHEET**  
**DG PN 16307**  
**Adhesive, Conductive Silver Epoxy**  
**Part B**

REVISION DATE: 01/29/2019  
REVISION: E

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and of the Code of Federal Regulations, Part 372.

Component	CAS	Weight %
None		

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

State Regulations

California Proposition 65

This product contains NO chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA (Toxic Substance Control Act)

All ingredients listed or exempt.

Chemical Safety Assessment

No data available

16. OTHER INFORMATION:

HMIS Ratings: H - 2 F - 1 R - 0

To the best of our knowledge, the information contained herein is accurate and meets all State and Federal guidelines. However, Dayton-Granger, Inc. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. 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 which exist. Final determination of the suitability of any material is the sole responsibility of the user.

SDS prepared 29<sup>th</sup> of January 2019. Updated storage conditions and hazard statements.

**DISCLAIMER**

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. This information is offered solely for your consideration, interpretation and information. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.