

1. Product Identification

Product name	SilverTip Slow Hardener, Part B
SDS Number	0901B00
Product type	Amine curing agent.
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, the laminating and coating of composite materials, wood, and inorganic substrates.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy, Suite Suite 105 Auburn, WA 98001-2436 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support-08@systemthree.com
Emergency Contact	CHEMTREC (U.S. and CANADA) 1-800-424-9300 CHEMTREC (Outside the U.S.) 1-703-527-0585

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word	DANGER Acute Toxicity: Oral – Category 4 Skin Corrosion/Irritation – Category 1 Serious Eye Damage/Eye Irritation – Category 1 Skin Sensitization – Category 1 Specific Target Organ Toxicity (Single Exposure) – Category 3 Aquatic Hazard (Acute) – Category 3 Aquatic Hazard (Long-term) – Category 3
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GHS Label Elements
Hazard Pictograms



Hazard Statements/Classification of substance or mixture	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H402 Harmful to aquatic life. H412 Harmful to aquatic life with long lasting effects.
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Precautionary statements

Precautionary Statements

Prevention

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing vapor.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.

Response

P280 Wear protective gloves. Wear eye or face protection.
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.

Storage**Disposal**

P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

None known.

3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Aliphatic Amine Mixture	Trade Secret	70 – 80%
Alkyl Phenol Mixture	Trade Secret	15 – 20%
Benzyl Alcohol	100-51-6	15 – 15%

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. First-Aid Measures

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting without medical advice. If vomiting occurs, the head

should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain open airway. Loosed tight clothing such as a collar, tie, belt, or waistband.

Inhalation

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

Specific treatments

No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide (CO₂), dry chemical, water fog.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous decomposition products

Decomposition products may include the following materials:

Carbon dioxide

Carbon monoxide

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information

Do not allow run-off from firefighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. Accidental Release Measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wear proper protective clothing, gloves and eye/face protection.

Emergency procedures

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Methods and materials for containment/cleanup

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined

areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

7. Handling and Storage

Precautions for safe handling

Put on appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid contact with skin and eyes. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. When using, do not eat, drink or smoke. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Precautions/Recommendations for safe/proper storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

None established.

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Do not allow spill to enter sewers or waterways.

Individual protection measures/Personal protective equipment

Eye/face protection

Splash-proof goggles or safety spectacles with side shields are recommended. Always wear eye protection when sanding cured epoxy resins to avoid dust in eyes.

Hand protection

Always wear impervious gloves: butyl rubber, nitrile rubber, Neoprene, PVC disposable gloves.

Skin protection

Wear clean, body-covering clothing to avoid skin contact.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator

Special instructions for protection and hygiene

selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Discard contaminated leather articles. Remove contaminated clothing. Wash at the end of each work shift and before eating smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.

9. Physical and Chemical Properties

Chemical family	Amine curing agent
Appearance	Clear liquid
Physical State	Amine mixture
Form	Liquid
Color	Colorless
Odor	Ammoniacal
Density (Specific Gravity)	0.9 – 1.0
Viscosity	525 CPS @77°F (25°C)
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	N/A
Evaporation rate	Slower than ether
Flammability (solid, gas)	N/A
Upper/lower flammability limit (by volume)	N/A
Upper flammability limit (by volume)	N/A
Lower flammability limit (by volume)	N/A
Material VOC	None
Vapor density	Heavier than air
Relative density	N/A
Solubility in water	Negligible
Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A

10. Stability and Reactivity

Reactivity	None.
Chemical Stability	Stable under normal conditions.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Do not freeze. Avoid exposure to air, moisture, ignition sources and elevated temperatures.
Incompatible materials	Reactive or incompatible with the following materials: Organic acids

Hazardous decomposition products	Strong acids Halogenated compounds Carbon monoxide Carbon dioxide
Other hazards	Nitrogen oxides None known.

11. Toxicological Information

Acute Health Hazard (components) No comprehensive data (ingestion, inhalation, dermal) on mixture (product).

Component	Result	Species	Dose	Exposure
Benzyl Alcohol	LD50 Oral	Rat	1,620 mg/kg	-
	LC50 Inhalation	Rat	>4,178 mg/kg	4 h, aerosol

Irritation/Corrosion (components) Classifies as corrosive per positive GHS calculation on additivity.

Component	Result	Species	Test	Exposure
Benzyl Alcohol	Eye – Irritant	Rabbit	OECD 405 Acute Eye Irritation/Corrosion	-
Aliphatic Amine Mixture	Corrosive		Calculated	

Sensitization No data is available on the product itself.

Mutagenicity No data is available on the product itself.

Carcinogenicity No data is available on the product itself.

Reproductive Toxicity No data is available on the product itself.

Teratogenicity No data is available on the product itself.

Specific target organ toxicity (single exposure) No data is available on the product itself.

Specific target organ toxicity (repeated exposure) No data is available on the product itself.

Aspiration hazard No data is available on the product itself.

Potential acute health effects

Eye Contact	Causes serious eye damage.
Inhalation	May cause respiratory irritation.
Skin Contact	Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.
Ingestion	Harmful if swallowed. May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Contact	Adverse symptoms may include the following: Pain or irritation Watering Redness
Inhalation	Adverse symptoms may include the following: Respiratory tract irritation Coughing
Skin Contact	Adverse symptoms may include the following: Pain or irritation Redness

Blistering may occur

Ingestion

Adverse symptoms may include the following:
Stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

No data is available on the product itself.

Potential chronic health effects

General

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates (ATEmix)

Route	ATE value
Oral	1918.8 mg/kg
Dermal	3271.1 mg/kg
Inhalation (vapors)	N/A

12. Ecological Information

Ecotoxicity

No data is available on the product itself.

Component	Endpoint	Exposure	Species	Result
Benzyl Alcohol	Acute LC50	96 h	Fish	460 mg/l
	Acute EC50	48 h	Invertebrates	230 mg/l
	Chronic NOEC	21 d	Invertebrates	51 mg/l
	Acute EC50	72 h	Algae	770 mg/l
	Chronic NOEC	72 h	Algae	310 mg/l

Persistence and degradability

No data is available on the product itself.

Component	Test	Period	Result
Benzyl Alcohol	-	-	Readily biodegradable

Bioaccumulative Potential

No data is available on the product itself.

Component	LogPow	BCF	Potential
Benzyl Alcohol	1.05	1.37 (calculated)	-

Mobility in Soil

No data is available on the product itself.

Soil/water partition coefficient (KOC)

No data is available on the product itself.

Other adverse effects

No known significant effects or critical hazards.

13. Disposal Considerations

Waste from residues/ unused products	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Product should not be allowed to enter drains, water courses or the soil; dispose of this material and its containers in a safe way. Contact supplier if guidance is required.
Contaminated packaging	Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International Transport Regulations

Regulatory information	UN/NA number	Proper Shipping Name	Classes/*PG	Additional Information
DOT	UN2735	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, para-tert-butylphenol)	Class 8 III	Marine pollutant
TDG	UN2735	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, para-tert-butylphenol)	Class 8 III	Marine pollutant
IMO/IMDG	UN2735	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, para-tert-butylphenol)	Class 8 III	Marine pollutant
IATA (Cargo)	UN2735	Amines, liquid, corrosive, n.o.s. (Isophorone diamine, para-tert-butylphenol)	Class 8 III	

*PG: Packing group

Special precautions for user:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
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15. Regulatory Information

UNITED STATES

U.S. Federal Regulations	United States – TSCA 12(b) – Chemical export notification: None Required. United States – TSCA 5(a)2 – Final significant new use rules: Not Listed. United States – TSCA 5(a)2 – Proposed significant new use rules: Not Listed. United States – TSCA 5(e) – Substance consent order: Not listed.
Clean Air Act – Ozone Depleting Substances (ODS)	This product does not contain nor is it manufactured with ozone depleting substances.
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	None known.
California Prop. 65	This product does not contain any chemicals known to the state of California to cause cancer, birth defects or any other harm.
EPA SARA 302 Extremely Hazardous Substances	None known.

EPA SARA 302/304/311/312 Hazardous Chemicals United States inventory (TSCA 8b) Acute Health Hazard
All components are listed or exempted.

CANADA

WHMIS (Canada) Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material.

Canadian NPRI None required.
CEPA Toxic substances None required.

INTERNATIONAL REGULATIONS

International Lists
Australia inventory (AICS): All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
New Zealand inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

16. Other Information, Including Date of Preparation or Last Revision

HMIS Rating

Health 3
Flammability 1
Physical Hazard 0

Date of Preparation February 17, 2017
Date of Last Revision March 26, 2015
Revision # 2.0
More Information 1-253-333-8118
Prepared by N. Kim, System Three Resins Inc.

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