

## SPI Supplies Division

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: December 4, 2015

**SPI #02833-AB Araldite 6005**

Component of 02635-AB SPI-Pon™ 812 - Araldite®  
6005 Epoxy Embedding Kit  
Component of 02650-AA, 02650-AB SPI-Chem™  
Araldite® 6005 Embedding Resin Kit

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### Section 1: Identification

Chemical Name/Synonyms..... Araldite 6005; 4-(1,1-Dimethylethyl)phenoxyethyl oxirane

Chemical family..... Epoxide; Liquid epoxy resin

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Product or Trade Name..... Araldite® 6005

CAS #'s..... 3101-60-8

Chemical Formula..... C<sub>13</sub>H<sub>18</sub>O<sub>2</sub>

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### Section 2: Hazard Identification

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**

Eye Irritant (Category 2B)

Skin Sensitization (Category 1)

Skin Irritant (Category 2)

**Hazards not otherwise classified:** No information know.

**GHS Label Elements, including precautionary statements:**



**Signal Word:** Warning

**Hazard Statements:**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

**Precautionary Statements:**

- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P362 Take off contaminated clothing.
- P363 Wash contaminated clothing before reuse
- P501 Dispose of contents / container in accordance with local/regional/national/international regulations.

**Hazardous Material Information System USA**

Health 2  
Fire Hazard 1  
Reactivity 0  
Personal Protection

**NFPA Rating (estimated)**

Health 2  
Flammability 1  
Reactivity 0

**Other Hazards:**

**Results of PBT and vPvB assessment:**

PBT: Not applicable  
vPvB: Not applicable

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**Section 3: Composition**

Component:	CAS#:	EC#	Percentage:
Bisphenol A epoxy resin	25085-99-8, 25068-38-6	none	60 – 100
Butylphenyl glycidyl ether	3101-60-8	221-453-2	3 - 7

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**Section 4: First Aid Measures**

**Eye Contact:**

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation:**

Move exposed person to fresh air. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt, or waistband. Get medical attention immediately.

**Ingestion:**

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Notes to physician:**

No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested

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## Section 5: Fire Fighting Measures

**Flash point:** Closed cup: >200°C (>392°F)

**Hazardous thermal decomposition products:**

Decomposition products may include carbon dioxide and carbon monoxide.

**Extinguishing media:**

Use an extinguishing agent suitable for the surrounding fire. None known to be not suitable.

**Special exposure hazards:**

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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**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.

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## Section 6: Accidental Release Measures

**Personal precautions:**

No action shall be taken involving any personal risk for without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**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). Water polluting material. May be harmful to the environment if released in large quantities.

**Methods for cleaning up:**

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material (erg. sand, earth, vermiculite or semiautomatic earth) and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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## Section 7: Handling and Storage

**Handling:**

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or

mist. Avoid release to the environment. 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.

**Storage:**

Store between the following temperatures: 2 to 40°C (35.6 to 104°F). 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 (see section 10) and food and drink. 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.

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## Section 8: Exposure Controls and Personal Protection

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures:**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures:**

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures:**

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protection:**

Respiratory:

In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands:**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC).

**Eyes:**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

**Skin:**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**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.

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## Section 9: Physical and Chemical Properties

### General Information:

#### Appearance:

Physical State: Liquid  
Color: Colorless  
Odor: Slight

### Important health, safety and environmental information:

pH: 7 [Conc. (%w/w): 50%]  
Boiling/condensation point: >200°C (>392°F)  
Melting/freezing point: Not available  
Flash point: Closed cup: >200°C (>392°F)  
Flammable limits: Not available  
Auto-ignition temperature: Not available  
Decomposition temperature: >200°C 392°F)  
Vapor pressure: <0.00001kPa (<0.000075mm Hg) [20°C]  
Specific gravity: not available  
Water solubility: practically insoluble  
Partition coefficient:(n-octanol/water (log Kow): Not available  
Viscosity: Dynamic: 7000 to 9000 mPa-s (7000 to 9000 cP)  
Density: 1.15 to 1.2 g/cm<sup>3</sup> [25°C (77°F)]  
Vapor density: Not available  
Evaporation rate (butyl acetate = 1): Not available

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## Section 10: Stability and Reactivity

### Chemical stability:

The product is stable.  
Under normal conditions of storage and use, hazardous reactions will not occur.

### Hazardous polymerization:

Under normal conditions of storage and use, hazardous polymerization will not occur.

**Conditions to avoid:** No specific data.

### Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## Section 11: Toxicological Information

### Acute Toxicity:

#### Bisphenol A epoxy resin

LC0 Inhalation Vapor	Rat – Male	0.00001 ppm / 5 hours
LD50 Dermal	Rat – Male, Female	>2000 mg/kg
LD50 Oral	Rat – Female	>2000 mg/kg

### Irritation / Corrosion:

#### Bisphenol A epoxy resin

Rabbit	Skin	Mild Irritant
Rabbit	Eye	Mild Irritant

#### Conclusion/Summary:

Skin: Reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <700): Slightly irritating to the skin.

Eyes: Reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <700): Slightly irritating to the eyes.

**Sensitizer:**

**Bisphenol A epoxy resin**

Skin                      Mouse                      Sensitizing

**Mutagenicity:**

**Bisphenol A epoxy resin**

Experiment: In vitro	Subject: Bateria	Metabolic activation: +/-	Positive
Experiment: In vitro	Subject: Mammalian-Animal		
	Cell: Somatic	Metabolic activation: +/-	Positive
Experiment: In vivo	Subject: Mammalian-Animal		
	Cell: Germ		Negative
Experiment: In vivo	Subject: Mammalian-Animal		
	Cell: Somatic		Negative

**Carcinogenicity:**

**Bisphenol A epoxy resin**

Rat – Male, Female	2 years; 7 days per week	Negative – Oral – NOAEL
Rat – Female	2 years; 5 days per week	Negative – Dermal – NOEL
Mouse – Male	2 years; 3 days per week	Negative – Dermal – NOEL

**Reproductive Toxicity:**

**Bisphenol A epoxy resin**

Rat – Male, Female      Oral: 540 mg/kg NOEL  
Negative for Maternal toxicity, Fertility, and Developmental effects.

**Teratogenicity:**

**Bisphenol A epoxy resin**

Rat – Female	Negative - Oral
Rabbit – Female	Negative – Dermal
Rabbit – Female	Negative – Oral

**Potential acute health effects**

Inhalation:	No known significant effect or critical hazards.
Ingestion:	No known significant effects or critical hazards.
Skin Contact:	Irritating to skin. May cause sensitization by skin contact.
Eye Contact:	Irritating to eyes.

**Potential chronic health effects:**

**Bisphenol A epoxy resin**

Sub-chronic NOAEL Oral	Rat – Male, Female	50 mg/kg	14 weeks; 7 days per week
Sub-chronic NOEL Dermal	Rat – Male, Female	10 mg/kg	13 weeks; 5 days per week
Sub-chronic NOALE Dermal	Mouse – Male	100 mg/kg	13 weeks; 3 days per week

**General:**

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

**Target Organs:**

No known significant effects or critical hazards.

**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.

**Medical conditions aggravated by over-exposure:**

Pre-existing skin disorders may be aggravated by over-exposure to this product.

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## Section 12: Ecological Information

**Environmental effects:**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Water polluting material. May be harmful to the environment if released in large quantities.

**Aquatic ecotoxicity:**

**Bisphenol A epoxy resin**

–	Acute EC50	72 hours Static	Algae	9.4 mg/L
	OECD 202 Daphnia sp. Acute Immobilization Test			
	Acute EC50	48 hours Static	Daphnia	1.7 mg/L
—	Acute IC50	3 hours Static	Bacteria	>100 mg/L
	OECD 203 Fish, Acute Toxicity Test			
	Acute LC50	96 hours Static	Fish	1.5 mg/L
	OECD 211 Daphnia Magna Reproduction Test			
	Chronic NOEC	21 days Semi-static	Daphnia	0.3 mg/L

**Persistence and degradability:**

**Bisphenol A epoxy resin**

OECD derived form OECD 301F (Biodegradation Test): 28 days 5%

Conclusion/Summary: Reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight <700): Not readily biodegradable.

Bisphenol A epoxy resin	Aquatic half-life	
Fresh water	4.83 days	Not readily biodegradable
Fresh water	3.58 days	
Fresh water	7.1 days	

**Bioaccumulative potential:**

**Bisphenol A epoxy resin**

LogP<sub>ow</sub> : 3.242      BCF: 31      Potential: Low

Other adverse effects: No known significant effects or critical hazards.

Other ecological information:

BOD5: Not determined.  
COD: Not determined  
TOC: Not determined.

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## Section 13: Disposal Considerations

### **Waste disposal:**

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

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## Section 14: Transport Information

Not a hazardous material for non-BULK transportation.

**UN-Number for DOT, IATA:** Not applicable.

**UN proper shipping name for DOT, IATA:** Not applicable.

**Transport Hazard Class for DOT, IATA:** Not applicable.

**Packing Group for DOT, IATA:** Not applicable.

**Environmental Hazards:** Not applicable.

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## Section 15: Regulatory Information

### **HCS Classification**

Irritating material  
Sensitizing material

### **U.S. Federal Regulations**

TSCA 8(b) Inventory: All components are listed or exempted  
TSCA 5(a)2 final significant new use rule (SNUR): No ingredients listed.  
TSCA 5(e) substance consent order: No ingredients listed.  
TSCA 12(b) export notification: No ingredients listed.

### **SARA 302/304/311/312**

SARA 302/304/311/312 extremely hazardous substances – No products were found.  
SARA 302/3047 emergency planning and notification – No products were found.  
SARA 302/304/311/312 hazardous chemicals – No products were found.  
SARA 311/312 MSDS distribution – chemical inventory – hazard identification:  
No products were found.

**SARA 313:** No ingredients listed.

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):** No ingredients were listed.

**Clean Air Act – Ozone Depleting Substances (ODS):** This product does not contain nor is it



manufactured with ozone depleting substances.

**California Prop. 65**

**Warning:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

**Warning:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

**Ingredient:** 1-Chloro-2,3-epoxypropane 0.000955113 %

**State Right-to-Know Lists**

Not listed.

**Other regulations, limitations and prohibitive regulations:**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC)**

**No. 1907/2006:**

Substance is not listed.

**Conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC)**

**No 197/2006 (REACH) for the manufacturing, placing on the market and use must be observed:**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorization for use):**

Substance is not listed.

**Canada:**

**WHMIS:** Class D-2B: Material causing other toxic effects (Toxic)

**DSL:** All components are listed or exempted.

**International Lists:**

All components are listed or exempted:

Australia inventory (AICS)

China inventory (IECSC)

Japan inventory

Korea inventory

New Zealand Inventory of Chemicals (NZIoC)

Philippines Inventory (PICCS)

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## Section 16: Other Information

**Disclaimer of Liability:**

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues or fluids.

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