Safety Data Sheet

Epsilon and 101 Fast Hardener

MSDS No. 1049-30

Date of Preparation: October 16, 2012

Revision: 0000

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Epsilon
General Use: Epoxy Resin
Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
Phone (610) 252-5800, FAX (610) 252-6200
Emergency Contact: Chem-Tel
Domestic 800-255-3924
International 813-248-0585

Section 2 - Hazards Identification

Hazard Designations:

GHS

Signal Word: Warning

Europe

Xi = Irritant

Canada

HMIS	
H	2
F	2
R	0

Hazard Statement

H302: Harmful if swallowed
H315: Causes skin irritation
H320: Causes eye irritation
H335: May cause respiratory irritation

Precautionary Statement

P262: Do not get in eyes, on skin, or on clothing
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P285: In case of inadequate ventilation wear respiratory protection.
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

EC Regulation 1273/2008

Risk Phrases

R22: Harmful if swallowed
R36/37/38: Irritating to eyes, respiratory system and skin.

Safety Phrases

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/38: Wear suitable protective clothing, gloves, and eye face/protection.
S38: In case of insufficient ventilation, wear suitable respiratory equipment.

Section 3 – Composition / Information on Ingredients

Component	ACGIH TWA	OSHA PEL	Hazard Designation	Weight Percent (%)
Benzyl alcohol CAS Number: 100-51-6 EINECS Number: 202-859-9	200 ppm	400 ppm	Xn	**20-25%**

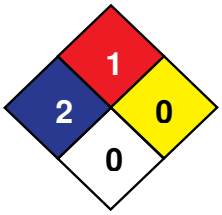
Section 4 - First Aid Measures

Inhalation: Remove source(s) of contamination and move victim to fresh air. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact physician immediately.
Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.
Skin Contact: In case of skin contact, wash thoroughly with soap and water.
Ingestion: Ingestion is unlikely route of exposure. Do not induce vomiting unless instructed by a physician.
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flash Point: >485 °F (252 °C)
Flash Point Method: PMCC
Flammability Classification: Non-Flammable
Extinguishing Media: Foam, Dry Chemical, and Carbon Dioxide
Unusual Fire or Explosion Hazards: None
Hazardous Combustion Products: Oxides of Nitrogen and Carbon, Acids and Aldehydes when burned.
Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus.

NFPA



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Only properly protected personnel should remain in the spill area; dike and contain spill; absorb or scrape up excess into suitable container for disposal; wash area with dilute ammonia solution. Stop or reduce discharge if it can be done safely.

Section 7 - Handling and Storage

Handling Precautions: Minimize breathing of vapors and avoid prolonged or repeated contact with skin. Wear proper protective equipment. If ventilation is not sufficient, wear proper respiratory equipment. Avoid moisture contamination. Reseal partial containers. Use good general housekeeping procedures.
Storage Requirements: Store in cool dry, well-ventilated area.

Section 8 - Exposure Controls / Personal Protection

Respiratory Protection: Follow OSHA respirator regulations 29 CFR 1910.134 and European Standards EN 141, 143 and 371; wear an MSHA/NIOSH or European Standards EN 141, 143 and 371 approved respirators. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, and aprons to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance and Odor: Beige; Faint Epoxy Odor
Vapor Pressure: None (Polymeric Resin)
Vapor Density (Air=1): None (Polymeric Resin)
Specific Gravity (H_2O=1, at 4 °C): 1.14
Water Solubility: negligible
Boiling Point: None (Polymeric Resin)
Freezing/Melting Point: None (Polymeric Resin)
Evaporation Rate: None (Polymeric Resin)
Viscosity: 10 poise

Section 10 - Stability and Reactivity

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions.
Polymerization: Hazardous polymerization can not occur.
Chemical Incompatibilities: Strong bases, and acids.
Hazardous Decomposition Products: Silica, carbon monoxide and carbon dioxide

Section 11- Toxicological Information

Eye Effects: Irritation
Skin Effects: Irritation
Carcinogenicity: None Determined
Mutagenicity: None Determined
Teratogenicity: None Determined

Section 12 - Ecological Information

None Established

Section 13 - Disposal Considerations

Disposal: Must be disposed of in accordance with applicable Federal, state and local regulations.

Section 14 - Transport Information

DOT	IATA	IMDG
Not regulated	Not regulated	Not regulated

Section 15 - Regulatory Information

EPA Regulations:

TSCA Inventory Status (40 CFR710): All components of this formulation are listed in the TSCA Inventory.

State Regulations:
California Proposition 65: This product **does not** contain any chemical, which has been identified by the state of California to cause cancer, birth defects or other reproductive harm.

16 - Other Information

Disclaimer: The information contained in this MSDS is considered accurate as of the version date. However, no warranty is expressed or implied regarding the accuracy of the data. Since the use of this product is not within the control of Smooth-On Inc., it is the user's obligation to determine the suitability of the product for its intended application and assumes all risk and liability for its safe use.

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA)Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS), and European Union Directive 1907/2006/EEC (REACH). Hazard symbols and risk phrases are based on maximum listed concentration of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200), the Canadian Workplace Hazardous Materials Information System (WHMIS) or the European Union (EU/EEC) directive 1907/2006/EEC and are considered trade secrets under US Federal Law (29CFR and 40CFR), Canadian Law (Health Canada Legislation), and European Union Directives.

Material Safety Data Sheet

Epsilon and 101 Fast Hardener **MSDS No. 1049-30**

Date Of Preparation: October 16, 2012 Revision: 0000

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: 101 Fast Hardener
Other Designations: Curing Agent, Epoxy
General Use: Laminating, Adhesive and Casting Resin
Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
Phone (610) 252-5800, FAX (610) 252-6200
Emergency Contact: Chem-Tel
Domestic 800-255-3924
International 813-248-0585

Section 2- Hazards Identification

Hazard Designation:

Europe

T:Toxic C: Corrosive

Canada

HMIS	
H	2
F	1
R	0

Risk Phrases pertaining to particular dangers
R48/20/21/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R23/24: Toxic by inhalation and in contact with skin.
R34: Irritating to skin.
R41: Risk of serious damage to eyes.
R43: May cause sensitization by skin contact.
R68: Possible risks of irreversible effects.

Classified according to Articles 6 & of Directive 1999/45/EC

Section 3 – Composition / Information on Ingredients

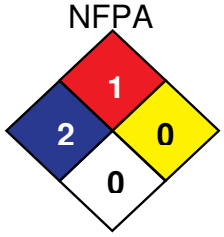
Component	ACGIH TWA	Exposure Limits OSHA PEL	Hazard Designation	Weight Percent (%)
Teta, reaction products with phenol/formaldehyde CAS Number: 32610-77-8 EINECS Number: none	None Established	None Established	Not Classified	**60-65**
Triethylenetetramine CAS Number: 112-24-3 EINECS Number: 203-950-6	None Established	None Established	C	**20-25**
Phenol CAS Number: 108-95-2 EINECS Number: 203-632-7	5 ppm/19mg/m^3	5 ppm/19mg/m^3	T C	**15-20**

Section 4 - First Aid Measures

Inhalation: Remove too fresh air; if breathing is labored seek medical attention.
Eye Contact: Flush with water for 15 minutes; seek medical attention
Skin Contact: remove with soap and water: if redness or rash develops seek medical attention: Launder contaminated clothing before reuse.
Ingestion: do not induce vomiting; seek medical attention
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

NFPA



Flash Point: 280 °F (135.6°C)
Flammability Classification: Combustible Liquid, Class III
Extinguishing Media: Foam, Dry Chemical, and Carbon Dioxide
Unusual Fire or Explosion Hazards: None
Hazardous Combustion Products: May generate Ammonia gas, Oxides of Nitrogen and Carbon when burned
Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures
Containment: Dike and contain for later disposal. Do not release into sewers or waterways.
Cleanup: Cover minor spills with sodium bisulfate to neutralize and reduce vapors. Spray with water. Place in metal containers for recovery or disposal. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing.
Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Avoid prolonged or repeated eye and skin contact. Avoid breathing vapors and use only with adequate ventilation. Use good general housekeeping procedures.
Storage Requirements: Keep away from oxidizers. Store in Closed containers. Use only with adequate ventilation.

Section 8 - Exposure Controls / Personal Protection

Respiratory Protection: Follow OSHA respirator regulations 29 CFR 1910.134 and European Standards EN 141, 143 and 371; wear an MSHA/NIOSH or European Standards EN 141, 143 and 371 approved respirators. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, and aprons to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations 29 CFR 1910.133 and European Standard EN166. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Section 8 - Exposure Controls / Personal Protection (continued)

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State:
Appearance and Odor: Amber liquid, Phenolic odor
Vapor Pressure: <1 mm/Hg @ 21°C
Vapor Density (Air=1): No Data
Specific Gravity (H_2O=1, at 4 °C): 1.08
Water Solubility: 0.25 g/l
Boiling Point: >446°F (>230°C)
Freezing/Melting Point: No Data
Evaporation Rate: No Data
pH: 10

Section 10 - Stability and Reactivity

Stability: This material is stable at room temperature in closed containers under normal storage and handling conditions.
Polymerization: Hazardous polymerization cannot occur.
Chemical Incompatibilities: Strong oxidizing agents, strong Lewis or mineral acids.
Conditions to Avoid: Mixing with epoxies under uncontrolled conditions.
Hazardous Decomposition Products: Thermal oxidative decomposition of can produce: Ammonia gas, Oxides of Nitrogen and Carbon when burned. Combustion of product under oxygen-starved conditions can be expected to produce numerous toxic products including nitriles, cyanic acid, isocyanates, cyanogens, nitrosamines, amides, and carbamates.

Section 11- Toxicological Information

Eye Effects: can cause burns
Skin Effects: will cause burns
Acute Toxicity Effects Data:
Oral LD50 (rat): >2,200 mg/kg
Dermal LD50 (rat): >2000 mg/kg
Skin LD50 (rat) > 20 mg/l
Mutagenicity: No Data
Teratogenicity: No Data

Section 12 - Ecological Information

None Determined

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Section 14 - Transport Information

DOT	IATA	IMDG
Not Regulated	**Not Regulated**	**Not Regulated**

Section 15 - Regulatory Information

EPA REGULATIONS:

SARA Title III Section 313 (40 CFR 372)

Chemical Name	CAS #	% by Weight
Phenol	108-95-2	20% Max

Section 15 - Regulatory Information (continued)

TSCA Inventory Status (40CFR710): All components of this formula are on the TSCA inventory

California Proposition 65: This product does not intentionally contain any chemicals, which have been identified by the state of California to cause cancer, birth defects or other reproductive harm.

Canadian Regulations;

WHMIS Identification: **D2**
CDSL/NDL (Canadian Domestic Substance List/Non Domestic Substance List): **Listed on CDSL**

Labeling according to EEC Directive

Risk Phrases	Symbol(s) Required for EU Label	Safety Phrases
R48/20/21/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. **R23/24:** Toxic by inhalation and in contact with skin. **R38:** Irritating to skin. **R41:** Risk of serious damage to eyes. **R43:** May cause sensitization by skin contact. **R68:** Possible risks of irreversible effects.	 T: Toxic C: Corrosive	**S1/2:** Keep locked up and out of reach of children **S26:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice **S28:** After contact with skin, wash immediately with plenty of soap and water. **S38:** In case of insufficient ventilation, wear suitable respiratory equipment. **S45:** In case of an accident or if you feel sick , seek medical attention

16 - Other Information

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