



Material Safety Data Sheet

Metalset A-4

MSDS No. 10

Date of Preparation: September 19, 2007

Revision: 0012

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Metalset A-4 Part A

Other Designations: Formulated Epoxy

General Use: Adhesive

Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
(610) 252-5800, FAX (610) 252-6200

Emergency Contact: Chem-Tel

Domestic 800-255-3924

International 813-248-0585

Section 2 - Composition / Information on Ingredients

OSHA Hazard Communication Standard 29CFR1910.1200:

Component	CAS Number	ACGIH TWA	Exposure Limits OSHA PEL	Weight Percent (%)
Diglycidyl Ether of Bisphenol A	25085-99-8	None Established	None Established	50-55
Aluminum	7429-90-5	5mg/m ³ as dust	10mg/m ³ as dust	20-25
Sodium Aluminosilicate	1344-00-9	10 mg/m ³	None Established	15-20
Silica, Amorphous	67762-90-7	6mg/m ³ as dust	10mg/m ³ as dust	2-5

Section 3 - Hazards Identification

Potential Health Effects

Primary Entry Routes: Skin

Acute Effects

Inhalation: unlikely unless heated

Eye: can cause irritation

Skin: can cause irritation

Ingestion: Unknown

Carcinogenicity: IARC, NTP, and OSHA do not list Metalset A-4 Part A as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: preexisting eye and skin disorders may be aggravated by exposure

HMIS	
H	2
F	1
R	0

Section 4 - First Aid Measures

Inhalation: Remove to 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: seek medical attention

After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flash Point: >392 °F (200 °C)

Flash Point Method: PMCC

Flammability Classification: Non-Flammable

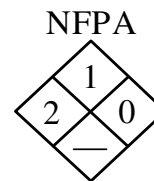
Extinguishing Media: Foam, Dry Chemical, and Carbon Dioxide

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 (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.



Section 6 - Accidental Release Measures

Spill /Leak Procedures

Containment: Dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Absorb with Vermiculite and scrape up excess.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Avoid prolonged or repeated skin contact. Use good general housekeeping procedures.

Storage Requirements: Store in Closed containers. Use only with adequate ventilation.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *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). 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)

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

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: gray Paste; mild odor

Vapor Pressure: None (Polymeric Resin)

Vapor Density (Air=1): None (Polymeric Resin)

Specific Gravity (H₂O=1, at 4 °C): 1.44

Water Solubility: negligible

Boiling Point: None (Polymeric Resin)

Freezing/Melting Point: None (Polymeric Resin)

Evaporation Rate: None (Polymeric Resin)

Viscosity: 1600 poise

Section 10 - Stability and Reactivity

Stability: Metalset A-4 Part A 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 Amines under uncontrolled conditions.

Hazardous Decomposition Products: Thermal oxidative decomposition of Metalset A-4 Part A can produce: Oxides of Nitrogen and Carbon, Acids and Aldehydes when burned

Section 11- Toxicological Information

Toxicity Data:*

Eye Effects: Irritation

Skin Effects: Irritation

Carcinogenicity: None

Mutagenicity: None Determined

Teratogenicity: None Determined

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

Not Regulated

IATA

Not Regulated

IMDG

Not Regulated

Section 15 - Regulatory Information

EPA Regulations: This material is not considered a hazardous material.

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33): None

RCRA Hazardous Waste Classification (40 CFR 261): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), None

SARA 311/312 Codes: None

SARA Toxic Chemical (40 CFR 372.65):

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Aluminum	7429-90-5	25.0 Max

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed,

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

States Right To Know, Substance List:

Delaware, Idaho, Massachusetts, Minnesota, New Jersey, Pennsylvania and Washington

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Aluminum	7429-90-5	25.0 Max

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.

Section 16 - Other Information

Prepared By: Dominick J. Finocchio

Title: Technical Director

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.



Material Safety Data Sheet

Metalset A-4

MSDS No. 10

Date of Preparation: September 19, 2007

Revision: 0012

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Metalset A-4 Part B

Other Designations: Formulated Epoxy

General Use: Adhesive

Manufacturer: Smooth-On Inc., 2000 St. John St., Easton PA 18042
(610) 252-5800, FAX (610) 252-6200

Emergency Contact: Chem-Tel

Domestic 800-255-3924

International 813-248-0585

Section 2 - Composition / Information on Ingredients

Component	CAS Number	ACGIH TWA	Exposure Limits OSHA PEL	Weight Percent (%)
Polyamide Resin	68082-29-1	Not Established	Not Established	35-40
Nepheline Syenite	37244-96-5	5 mg/m ³ in as dust	5 mg/m ³ as dust	30-35
Silica, Quartz	14808-60-7	0.1 mg/m ³ as dust	0.1 mg/m ³ as dust	13-15
Tetraethylene Pentamine	112-57-2	Not Established	Not Established	3-5
Triethylene Tetramine	112-24-3	Not Established	Not Established	1-3
Titanium Dioxide	13463-67-7	10mg/m ³ as dust	10 mg/m ³ as dust	2-5

Section 3 - Hazards Identification

Potential Health Effects

Primary Entry Routes: Skin, inhalation of vapors

Acute Effects

Inhalation: vapors are irritating to respiratory tract.

Eye: can cause burns

Skin: will cause burns: may cause sensitization after prolonged or repeated use.

Ingestion: will cause severe damage to the mucous membranes if swallowed.

Carcinogenicity IARC, NTP, and OSHA: Quartz dust has been identified as a carcinogen or probable carcinogen by IARC.

Medical Conditions Aggravated by Long-Term Exposure: preexisting eye and skin disorders may be aggravated by exposure

HMIS	
H	2
F	1
R	0

Section 4 - First Aid Measures

Inhalation: Remove to 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, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flash Point: >280 °F (195°C)

Flash Point Method: PMCC

Flammability Classification: Non-Flammable

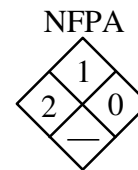
Extinguishing Media: Foam, Dry Chemical, and Carbon Dioxide

Unusual Fire or Explosion Hazards: None

Hazardous Combustion Products: Oxides of Nitrogen and Carbon 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: Scrape up excess.

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: Store in Closed containers. Use only with adequate ventilation.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *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). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Section 8 - Exposure Controls / Personal Protection (continued)

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

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: White Paste;
ammonia odor

Vapor Pressure: <1 @ 25°C

Vapor Density (Air=1): No Data

Specific Gravity (H₂O=1, at 4 °C): 1.4

Water Solubility: negligible

Boiling Point: No Data

Freezing/Melting Point: No Data

Evaporation Rate: No Data

Viscosity (poise): 3200

Section 10 - Stability and Reactivity

Stability: Metalset A-4 Part B 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 Metalset A-4 Part B can produce: Oxides of Nitrogen and Carbon when burned.

Section 11- Toxicological Information

Eye Effects: can cause burns

Skin Effects: will cause burns

Carcinogenicity: Quartz dust has been identified as a carcinogen or probable carcinogen by IARC.

Mutagenicity: None Determined

Teratogenicity: None Determined

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
Not Regulated

IATA
Not Regulated

IMDG
Not Regulated

Section 15 - Regulatory Information

EPA Regulations: This material is not considered a hazardous material.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed,

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

Section 15 - Regulatory Information (continued)

States Right To Know, Substance List:

Idaho:

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Silica, Quartz	14808-60-7	15.0 Max

Massachusetts:

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Tetraethylene Pentamine	112-57-2	5.0 Max
Triethylene Tetramine	112-24-3	3.0 Max
Silica, Quartz	14808-60-7	15.0 Max
Titanium Dioxide	13463-67-7	5.0 Max

Minnesota:

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Silica, Quartz	14808-60-7	15.0 Max
Titanium Dioxide	13463-67-7	5.0 Max

Pennsylvania:

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Tetraethylene Pentamine	112-57-2	5.0 Max
Triethylene Tetramine	112-24-3	3.0 Max
Silica, Quartz	14808-60-7	15.0 Max
Titanium Dioxide	13463-67-7	5.0 Max

Washington:

<u>Chemical Name</u>	<u>CAS #</u>	<u>% by Weight</u>
Silica, Quartz	14808-60-7	15.0 Max
Titanium Dioxide	13463-67-7	5.0 Max

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.

Section 16 - Other Information

Prepared By: Dominick J. Finocchio

Title: Technical Director

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