Safety Data Sheet

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Name: Brown Epoxy Silane Part A Product Code: ES-609 Part A

MANUFACTURER : Heresite Protective Coatings, LLC
822 S. 14th Street
Manitowoc, WI 54220, USA

TELEPHONE NUMBER: +1 (920) 684-6646
FAX NUMBER: +1 (920) 684-0110

EMERGENCY PHONE: CHEMTREC
+1 (800) 424-9300

E-MAIL ADDRESS OF PERSON RESPONSIBLE:
peter@heresite.com

Product Use: Industrial and Commercial Coatings, primary application to metal.
Not recommended for: Any other application

SECTION 2: HAZARDS IDENTIFICATION

GHS Ratings:

Flammable liquid	2	Flash point < 23°C and initial boiling point > 35°C (95°F)
Dermal Toxicity	4	Dermal>1000+<=2000mg/kg
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity >= 3, Iritis > 1.5
Skin sensitizer	1	Skin sensitizer
Reproductive toxin	1B	Presumed, Based on experimental animals

Signal Word: Danger

GHS Hazards

H225	Highly flammable liquid and vapour
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H360	May damage fertility or the unborn child

GHS Precautions

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/light/equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P261	Avoid breathing dust/fume/gas/mist/vapours/spray

P264	Wash hands thoroughly after handling
P272	Contaminated work clothing should not be allowed out of the workplace
P280	Wear protective gloves/protective clothing/eye protection/face protection
P281	Use personal protective equipment as required
P310	Immediately call a POISON CENTER or doctor/physician
P321	Specific treatment (see SDS)
P362	Take off contaminated clothing and wash before reuse
P363	Wash contaminated clothing before reuse
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	If exposed or concerned: Get medical advice/attention
P332+P313	If skin irritation occurs: Get medical advice / attention
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention
P370+P378	In case of fire: Use CO2, dry chemical, or foam for extinction.
P405	Store locked up
P403+P235	Store in a well-ventilated place. Keep cool
P501	Dispose of contents/container to in accordance with local/regional/national/international regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS number	Weight Concentration %
Dimethyl carbonate	616-38-6	20.00% - 30.00%
Yellow Iron Oxide	51274-00-1	10.00% - 20.00%
Cyclohexanol, 4,4'-(1methylethylidene) bis-, polymer with (chloromethyl) oxirane	30583-72-3	10.00% - 20.00%
Iron Oxide	1309-37-1	5.00% - 10.00%
Ethylene Glycol Monobutyl Ether	111-76-2	5.00% - 10.00%
Butyl Acetate	123-86-4	1.00% - 5.00%
Barium Sulfate	7727-43-7	1.00% - 5.00%
Black Iron Oxide	12227-89-3	1.00% - 5.00%
1,2,2,6,6-Pentamethyl-4-piperidyl sebacate derivatives	41556-26-7	1.00% - 5.00%

SECTION 4 - FIRST AID MEASURES

General Advice

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen if a qualified operator is available. Get medical attention.

Eye Contact

Immediately flush eyes with large amounts of water for at least 20 minutes, while holding eyelids open. Obtain medical attention immediately, as a precaution.

Skin Contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

If person is conscious, give them several glasses of water to drink. Do NOT induce vomiting unless directed to do so by medical personnel. Obtain immediate medical attention.

Most important symptoms and effects, both acute and delayed

No information available

Indication of any immediate medical attention and special treatment needed

Consult a physician

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media

Carbon Dioxide, Dry Chemical, Foam

Unsuitable extinguishing media

None identified

Special hazards arising from the substance or mixture

None identified

Advice for firefighters

No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.
Keep people at a distance and stay on the windward side.
Ensure adequate ventilation.
Keep away from ignition sources.

Environmental precautions:

Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.
Prevent from spreading (e.g. by damming-in or oil barriers).
Keep dirty washing solution for appropriate disposal.

Methods and material for containment and cleaning up:

Ensure adequate ventilation and proper training.
Absorb with liquid-binding non combustible material (e.g. sand).
Clean the accident area carefully.
Send for recovery or disposal in suitable containers.

Reference to other sections:

See Section 2, 7, 8 and 13

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

See Section 2

Conditions for safe storage:

Store in a well-ventilated place.
Keep cool.
Store with only compatible materials.

Specific end uses(s):

See Section 1

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Dimethyl carbonate 616-38-6	Not Established	Not Established	Not Established
Yellow Iron Oxide 51274-00-1	STEL 10ppm	TLV 5mg/m3	Not Established
Cyclohexanol, 4,4'-(1methylethylidene) bis-, polymer with (chloromethyl) oxirane 30583-72-3	Not Established	Not Established	Not Established
Iron Oxide 1309-37-1	10 mg/m3 TWA (fume); 15 mg/m3 TWA (total dust, listed under Rouge); 5 mg/m3 TWA (respirable fraction, listed under Rouge)	5 mg/m3 TWA (respirable fraction)	NIOSH: 5 mg/m3 TWA (dust and fume, as Fe)
Ethylene Glycol Monobutyl Ether 111-76-2	50 ppm TWA; 240 mg/m3 TWA	20 ppm TWA	NIOSH: 5 ppm TWA; 24 mg/m3 TWA
Butyl Acetate 123-86-4	150 ppm TWA; 710 mg/m3 TWA	200 ppm STEL 150 ppm TWA	NIOSH: 150 ppm TWA; 710 mg/m3 TWA 200 ppm STEL; 950 mg/m3 STEL
Barium Sulfate 7727-43-7	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	5 mg/m3 TWA (inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica)	NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Black Iron Oxide 12227-89-3	PEL 10 mg/m3 (TWA)	TLV 5 mg/m3 (TWA)	Not Established
1,2,2,6,6-Pentamethyl-4-piperidyl sebacate derivatives 41556-26-7	Not Established	Not Established	Not Established

Additional information about design of technical systems:
Engineering controls should be used as a primary means to control exposures.
Make available emergency shower and eye wash at the workplace according to appropriate standards.
A workplace risk assessment must be carried out in order to determine the corrective engineering control and organizational measures and personal protective equipment.
No further data; see Section 7.

Exposure controls

Appropriate engineering controls:
No data available
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Take off immediately all contaminated clothing.
Launder work clothing regularly.
Wash hands before breaks and at the end of the work.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Do not eat, drink or smoke while working to limit potential ingestion of chemicals.

Personal Protective Equipment

Eye and Face Protection:
Wear eye protection/face protection.
Skin Protection:
Wear protective gloves/protective clothing.

Hand Protection:
The glove material has to be impermeable and resistant to the product.
Due to missing tests no recommendation to the glove material can be given for the product.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation .
Respiratory Protection:
Engineering controls should be used as primary means to control exposures. Local exhaust ventilation is required unless used in a closed system. For laboratory use, handle in a lab fume hood.
If the applicable Occupational Exposure Level (OEL) is exceeded, wear a NIOSH certified respiratory protection equipment meeting US requirements (1910.134 Occupational Safety and Health Administration, Personal Protective Equipment, Respiratory Protection) with a protection factor sufficient to control exposures to below the OEL .

Environmental Exposure Controls:
See Section 6.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	No Data Found	**Odor:**	No Data Found
Vapor Pressure:	5.2 mmHg	**Odor threshold:**	No Data Found
Vapor Density:	4.1	**pH:**	No Data Found
Specific Gravity	1.40	**Melting point:**	No Data Found
Freezing point:	No Data Found	**Solubility:**	No Data Found
Boiling range:	No Data Found	**Flash point:**	63 F,17 C
Evaporation rate:	No Data Found	**Flammability:**	No Data Found
Explosive Limits:	No Data Found	**Partition coefficient (n-octanol/water):**	No Data Found
Autoignition temperature:	No Data Found	**Decomposition temperature:**	No Data Found
Viscosity:	No Data Found	**Grams VOC less water:**	No Data Found

SECTION 10: STABILITY AND REACTIVITY

Reactivity:
No known hazards with respect to reactivity when handled and stored according to provisions.
Chemical Stability:
Stable under recommended storage and handling conditions.
Thermal decomposition / conditions to avoid:
Avoid exposure to heat, sources of ignition, and open flame . No decomposition if used according to specifications.
Possibility of hazardous reactions:
No data available.
Conditions to avoid:
High Temperatures.
Heat, flames and sparks.
See section 2.
Incompatible materials:
No further information available.

Strong Oxidizers
Heat, sparks, open flames and hot surfaces.
Strong bases
Strong Reducing Agents
Strong Acids
Strong Oxidizing Agents
Aluminum
Phosphorous
Chlorates
Chloroformates
Peroxides
Heat/sparks/open flames/hot surfaces.

Hazardous decomposition products:
In case of fire: Carbon Dioxide, Carbon Monoxide, Hydrocarbons

SECTION 11: TOXICOLOGICAL INFORMATION

Mixture Toxicity

Oral Toxicity LD50: 3,002mg/kg
Dermal Toxicity LD50: 1,379mg/kg
Inhalation Toxicity LC50: 611mg/L

Component Toxicity

111-76-2	Ethylene Glycol Monobutyl Ether Oral LD50: 470 mg/kg (Rat) Dermal LD50: 99 mg/kg (Rabbit) Inhalation LC50: 220 mg/kg (Rat)
123-86-4	Butyl Acetate Dermal LD50: 500 mg/m3 (Rabbit) Inhalation LC50: 390 ppm (Rat)

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label.

Routes of Entry:

Inhalation Skin Contact Eye Contact

Exposure to this material may affect the following organs:

Blood Eyes Kidneys Liver Lungs Central Nervous System Skin Respiratory System

Effects of Overexposure

May be harmful if inhaled. Causes respiratory tract irritation.
May be harmful if absorbed through skin. Causes skin irritation.
Irritating to eyes.
May be harmful if swallowed

Limits for Air Contaminants

CAS Number	Description	% Weight	Carcinogen Rating
None			No Information Available

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

No ecotoxicological data for the substance itself are available.

Persistence and degradability:

No further relevant information available.

Bioaccumulative potential:

No further relevant information available.

Mobility in soil:

No further relevant information available

Results of PBT and VPvB assessment:

No data available

Other adverse effects:

No further relevant information available.

Component Ecotoxicity

Ethylene Glycol Monobutyl Ether	96 Hr LC50 Lepomis macrochirus: 1490 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 2950 mg/L 48 Hr EC50 Daphnia magna: >1000 mg/L
Butyl Acetate	96 Hr LC50 Lepomis macrochirus: 100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 17 - 19 mg/L [flow-through] 72 Hr EC50 Desmodesmus subspicatus: 674.7 mg/L
Barium Sulfate	No data available.
1,2,2,6,6-Pentamethyl-4-piperidyl sebacate derivatives	96 Hr LC50 Lepomis macrochirus: 0.97 mg/L [static]

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods:

Waste material must be disposed of I/A/W Federal, State & Local environmental control regulations . Incineration is a recommended technology. Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Do not heat/cut empty container with electric or gas torch.

SECTION 14: TRANSPORT INFORMATION

Environmental hazards:

No information available

Special precautions for users:

No information available.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

Not required, not intended to be carried in bulk tankers.

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
IATA	Paint	1263	II	3
IMO	Paint	1263	II	3
USDOT	Paint	1263	II	3

SECTION 15: REGULATORY INFORMATION

Classification:

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin:

- None

Clean Air Act

123-86-4 Butyl Acetate 1 to 5 %
111-76-2 Ethylene Glycol Monobutyl Ether 5 to 10 %
616-38-6 Dimethyl carbonate 20 to 30 %

Clean Water Act

123-86-4 Butyl Acetate 1 to 5 %

SARA Section 302

123-86-4

OSHA Hazards

7727-43-7 Barium Sulfate 1 to 5 % Target Organ Effect
123-86-4 Butyl Acetate 1 to 5 % Flammable liquid, Target Organ Effect, Irritant
1309-37-1 Iron Oxide 5 to 10 % Irritant
- None

SARA 311/312

7727-43-7 Chronic Health Hazard
123-86-4 Fire Hazard, Chronic Health Hazard, Acute Health Hazard
111-76-2 Fire Hazard, Chronic Health Hazard, Acute Health Hazard
1309-37-1 Acute Health Hazard
51274-00-1 Delayed health hazard

SARA 313

- None

TSCA (Toxic Substance Control Act)

123-86-4 Butyl Acetate 1 to 5 %
111-76-2 Ethylene Glycol Monobutyl Ether 5 to 10 %
68957-04-0 Dimethyl, methoxy phenyl polymers with phenylsilsesquioxanes, methoxy terminated 16 %

TSCA (Toxic Substance Control Act) 8b

41556-26-7 1,2,2,6,6-Pentamethyl-4-piperidyl sebacate derivatives 1 to 5 %
12227-89-3 Black Iron Oxide 1 to 5 %
7727-43-7 Barium Sulfate 1 to 5 %
123-86-4 Butyl Acetate 1 to 5 %
111-76-2 Ethylene Glycol Monobutyl Ether 5 to 10 %
1309-37-1 Iron Oxide 5 to 10 %
30583-72-3 Cyclohexanol, 4,4'-(1methylethylidene) bis-, polymer with (chloromethyl) oxirane 10 to 20 %
68957-04-0 Dimethyl, methoxy phenyl polymers with phenylsilsesquioxanes, methoxy terminated 16 %
51274-00-1 Yellow Iron Oxide 10 to 20 %
616-38-6 Dimethyl carbonate 20 to 30 %

Country	Regulation	All Components Listed
USA	New Jersey Right to Know	No
USA	Pennsylvania Right to Know	No
USA	Massachusetts Right to Know	No
AU	Australia inventory	No
CA	Canadian Domestic Substances List/Non-Domestic Substances List	No
EU	European inventory	No
JP	Japan inventory	No
CN	China inventory	No
Korea	Korean Existing and Evaluated Chemical Substances	No
NZ	New Zealand inventory	No
PH	Philippine The Toxic Substances and Hazardous and Nuclear Waste Control Act	No
Canada		No

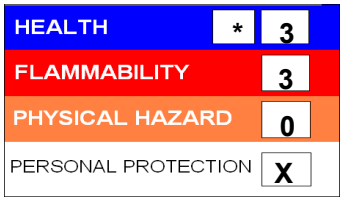
EU Risk Phrases

Safety Phrase

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 Title 40 of the Code of Federal Regulations part 372.

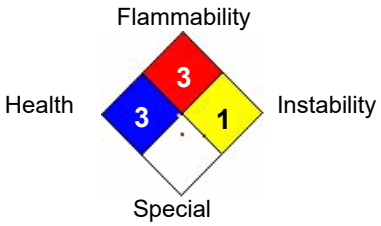
SECTION 16: OTHER INFORMATION

Hazardous Material Information System (HMIS)



HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazar**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



DISCLAIMER: The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

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