



CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

MATERION

Product name: SilverTech Epoxy Kit Part A

Issue date: 02-14-2020


Version #: 01

SDS No: -

SECTION 1 Chemical product and company identification

Chinese name of chemical	銀科技環氧樹脂套件部件 A	
English name of chemical	SilverTech Epoxy Kit Part A	
Manufacturer/Supplier	Materion Advanced Materials Group	
Address	42 Mt. Ebo Road South Brewster, NY 10509 United States	
Contact person	Not available.	
Telephone	1+845.279.0900	
e-mail	Not available.	
Emergency telephone number	Chemtrec	1+703.527.3887
Issue date	02-14-2020	

SECTION 2 Hazards identification

Emergency overview	Toxic in contact with skin. The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.	
Hazard categories		
Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
	Acute toxicity, dermal	Category 3
Environmental hazards	Not classified.	
Label elements		
Pictograms		
Signal word	Danger	
Hazard statement		
H303	May be harmful if swallowed.	
H311	Toxic in contact with skin.	
Precautionary statement		
Prevention		
P280	Wear protective gloves/protective clothing.	
Response		
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.	
P312	Call a POISON CENTER/doctor if you feel unwell.	
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.	
Storage		
P405	Store locked up.	
Disposal		
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Physical and chemical hazards	The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.
Health hazards	Toxic in contact with skin. May be harmful if swallowed. Prolonged inhalation may be harmful. Direct contact with eyes may cause temporary irritation.
Environmental hazards	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Supplemental information	100% of the mixture consists of component(s) of unknown acute oral toxicity. 100% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. For further information, please contact the Product Stewardship Department at +1.800.862.4118.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture		
Chemical name	Concentration (%)	CAS Number	
Silver	65 - 75	7440-22-4	
RM Exopy Resin	20 - 30	25068-38-6	
Butyl 2,3-epoxypropyl Ether	3 - 10	2426-08-6	
Epichlorhydrin	≤ 0	106-89-8	

SECTION 4 First aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Wash off with soap and water. Get medical advice/attention if you feel unwell. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms and health effects	Direct contact with eyes may cause temporary irritation.
Personal protection for first-aid responders	Take off immediately all contaminated clothing. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5 Fire-fighting measures

Extinguishing media	Water spray. Foam. Powder. Carbon dioxide (CO ₂).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Use water spray to cool unopened containers.
Protection of fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Clean-up methods and materials and containment measures	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
Storage	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Components	Type	Value
Butyl 2,3-epoxypropyl Ether (CAS 2426-08-6)	PC-TWA	60 mg/m ³
Epichlorhydrin (CAS 106-89-8)	PC-STEL	2 mg/m ³
	PC-TWA	1 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007): Skin designation

EPICHLOROHYDRIN (CAS 106-89-8) Can be absorbed through the skin.

Monitoring methods	Follow standard monitoring procedures.
Engineering measures	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Wear appropriate chemical resistant gloves.
Eye protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear appropriate chemical resistant clothing.
Hygiene measures	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9 Physical and chemical properties

Appearance

Physical state Solid.

Form	Solid.
Color	Not available.
Odor	Not available.
pH	Not available.
Melting point/freezing point	1760.9 °F (960.5 °C) estimated
Boiling point, initial boiling point, and boiling range	327.2 °F (164 °C) estimated
Flash point	Not available.
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.5 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Density	10.49 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Flammability (solid, gas)	Not available.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	10.49 estimated

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Ammonia. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity Toxic in contact with skin. May be harmful if swallowed.

Components	Species	Test Results
Butyl 2,3-epoxypropyl Ether (CAS 2426-08-6)		
Acute		
Dermal		
LD50	Rabbit	0.788 g/kg
Inhalation		
LC50	Rat	> 670 mg/l, 8 Hours
Oral		
LD50	Rat	2.05 g/kg

Routes of exposure	Inhalation. Ingestion. Skin contact.
Symptoms	Direct contact with eyes may cause temporary irritation.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity**China OELs for hazardous agents in the workplace: Carcinogen Category**

EPICHLOROHYDRIN (CAS 106-89-8)	Probable human carcinogen
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IARC Monographs. Overall Evaluation of Carcinogenicity

Epichlorhydrin (CAS 106-89-8)	2A Probably carcinogenic to humans.
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Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity following single exposure	Not classified.
Specific target organ toxicity following repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

SECTION 12 Ecological information**Ecotoxicological data**

Product	Species		Test Results
SilverTech Epoxy Kit Part A			
Aquatic			
Crustacea	EC50	Daphnia	0.0127 mg/l, 48 hours estimated
Fish	LC50	Fish	3.8034 mg/l, 96 hours estimated

Components	Species		Test Results
Epichlorhydrin (CAS 106-89-8)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	9.1 - 12.3 mg/l, 96 hours

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulation**Bioaccumulative potential****Octanol/water partition coefficient log Kow**

Butyl 2,3-epoxypropyl Ether	0.63
Epichlorhydrin	0.45

Mobility in soil No data available for this product.

Other hazardous effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 Disposal considerations

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Local disposal regulations Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport information

CNDG

UN number UN3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (RM Exopy Resin)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (RM Exopy Resin)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 9L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information

Passenger and cargo aircraft Allowed with restrictions.

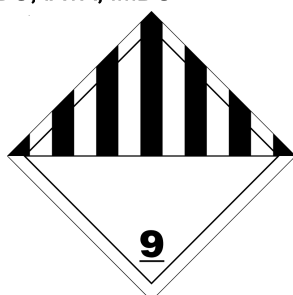
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (RM Exopy Resin) (Epichlorhydrin)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-A, S-F
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
 Epichlorhydrin

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

CNDG; IATA; IMDG



General information IMDG Regulated Marine Pollutant.

SECTION 15 Regulatory information

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Classification of occupational disease hazards

Butyl 2,3-epoxypropyl Ether (CAS 2426-08-6)

Epichlorhydrin (CAS 106-89-8)

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

EPICHLOROHYDRIN (CAS 106-89-8)

List of Priority Management of Hazardous Chemicals

Epichlorhydrin (CAS 106-89-8)

Interim Provisions on the Supervision and Management of Major Hazards of Dangerous Chemicals GB 18218-2008

Identification of major hazard installations for dangerous chemicals

Chemical name	CAS number	Threshold quantity (Tons)	Type
Epichlorhydrin	106-89-8	20	Toxic substances

Provision on the Environmental Administration of New Chemical Substances

China Inventory of Existing Chemical Substances

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations

This safety data sheet conforms to the following laws, regulations and standards:

Measures for the Safe Use of Chemicals in Workplaces

General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)

Regulations on Labor Protection in Workplaces Where Toxic Products Are Used

Packing Symbol of Dangerous Goods(GB190-2009)

Regulations on the Control over Safety of Dangerous Chemicals

Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)

Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

China. National Catalogue of Hazardous Wastes

Epichlorhydrin (CAS 106-89-8)

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information

Bibliography

EPA: ACQUIRE database

GB6944-2012: Classification and Code of Dangerous Goods.

GB12268-2012: List of Dangerous Goods.

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

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Revision information

Product and Company Identification: Product Review

Composition / Information on Ingredients: Relevant Override

Transport Information: Material Transportation Information