

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 3/1/2023 Version: 1.0

Safety Data Sheet

A Meridian Adhesives Group Company

SECTION 1: Identification		
1.1. Identification		
Product form Product name	: Mixture : EPO-TEK® MED-H20S P/	ART A
1.2. Recommended use and restrictions	on use	
Use of the substance/mixture Recommended use Restrictions on use	: Adhesives : Adhesives : Not to be used for any pur	pose other than the one the product was designed for
1.3. Supplier		
Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA T 978-667-3805 - F 978-663-9782 www.epotek.com		
1.4. Emergency telephone number		
Emergency number	: VelocityEHS: +1 (800) 255	5-3924, +1 (813) 248-0585
SECTION 2: Hazard(s) identification		
2.1. Classification of the substance or mi	xture	
GHS US classification		
Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2 Skin sensitization, Category 1	H315 H319 H317	Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction

Germ cell mutagenicity Category 2 Hazardous to the aquatic environment - Acute Hazard Category 1

Hazardous to the aquatic environment - Chronic Hazard Category 1

Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing genetic defects
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)

Full text of H statements : see section 16

Signal word (GHS US) Hazard statements (GHS US)

Precautionary statements (GHS US)

	×
Warning	

- : H315 Causes skin irritation
 - H317 May cause an allergic skin reaction
 - H319 Causes serious eye irritation

H341

H400

H410

- H341 Suspected of causing genetic defects
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects
- : P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

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P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
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.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in
accordance with local, regional, national and/or international regulation.

: Harmful dust may be released during cutting, milling or grinding process.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Silver	CAS-No.: 7440-22-4	≥ 60	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Bisphenol A diglycidyl ether resin	CAS-No.: 25085-99-8	30 – 60	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Reactive Diluent*	CAS-No.: Trade Secret	1 – 5	Skin Irrit. 2, H315 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Comments : Components not listed are either non-hazardous or are below reportable limits. Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures general First-aid measures after inhalation	IF exposed or concerned: Get medical advice/attention.Remove person to fresh air and keep comfortable for breathing.

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First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to
First-aid measures after ingestion	do. Continue rinsing. If eye irritation persists: Get medical advice/attention.Call a poison center/doctor/physician if you feel unwell.
4.2. Most important symptoms and e	ffects (acute and delayed)
Symptoms/effects after skin contact Symptoms/effects after eye contact	Irritation. May cause an allergic skin reaction.Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures			
5.1. Suitable (and unsuitable) extinguishing	ı media		
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.		
5.2. Specific hazards arising from the chemical			
Hazardous decomposition products in case of fire	: Toxic fumes may be released.		
5.3. Special protective equipment and preca	autions for fire-fighters		
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.		

SECTION 6: Accidental release measures		
6.1. Personal precautions, protective e	equipment and emergency procedures	
6.1.1. For non-emergency personnel		
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.	
6.1.2. For emergency responders		
Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".	
6.2. Environmental precautions		
Avoid release to the environment.		
6.3. Methods and material for containn	nent and cleaning up	
For containment	: Collect spillage.	
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.	
Other information	: Dispose of materials or solid residues at an authorized site.	

6.4. Reference to other sections For further information refer to section 13.

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SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling : Hygiene measures :	Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands
	after handling the product.
7.2. Conditions for safe storage, including an	y incompatibilities
Storage conditions :	Store locked up. Store in a well-ventilated place. Keep cool.
SECTION 8: Exposure controls/personal	protection
8.1. Control parameters	
No additional information available	
8.2. Appropriate engineering controls	
	Ensure good ventilation of the work station. Avoid release to the environment.
8.3. Individual protection measures/Personal	protective equipment
Hand protection:	
	n. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is al, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's and whenever signs of wear or perforation appear
Eye protection:	
Safety glasses	
Skin and body protection:	
Wear suitable protective clothing	
Respiratory protection:	
[In case of inadequate ventilation] wear respiratory pro	otection.
Personal protective equipment symbol(s):	

SECTION 9: Physical and chemical properties	
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Physical state	
Color	
Odor	
Odor threshold	

: Liquid: Silver: Mild odor: No data available

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pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information		
11.1. Information on toxicologic	effects	
Acute toxicity (oral) Acute toxicity (dermal) Acute toxicity (inhalation)	 Not classified Not classified Not classified 	
Silver (7440-22-4)		
LD50 oral rat	> 2000 mg/kg Source: ECHA	

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Silver (7440-22-4)	
LD50 dermal rat	> 2000 mg/kg Source: ECHA
LC50 Inhalation - Rat	> 5.16 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)
ATE US (oral)	5000 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight
Reactive Diluent	
LD50 oral rat	> 5000 mg/kg (Rat, Oral)
LD50 dermal rat	> 2000 mg/kg (Rat, Dermal)
LC50 Inhalation - Rat	6.09 mg/l (4 h, Rat, Inhalation)
ATE US (oral)	5000 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight
ATE US (vapors)	6.09 mg/l/4h
ATE US (dust, mist)	6.09 mg/l/4h
Bisphenol A diglycidyl ether resin (2	5085-99-8)
LD50 oral rat	> 2000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Silver (7440-22-4)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Aspiration hazard	: Not classified
√iscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity	
Ecology - general	: Very toxic to aquatic life with long lasting effects.
Silver (7440-22-4)	
LC50 - Fish [1]	4.7 μg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	89.4 μg/l Test organisms (species): Pimephales promelas
ErC50 algae	0.285 µg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

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Reactive Diluent		
LC50 - Fish [1]	1 – 10 mg/l (Pisces)	
EC50 - Crustacea [1]	1 – 10 mg/l (Invertebrata)	
12.2. Persistence and degradability		
Silver (7440-22-4)		
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.	
Chemical oxygen demand (COD)	Not applicable (inorganic)	
ThOD	Not applicable (inorganic)	
Reactive Diluent		
Persistence and degradability	Biodegradability in soil: no data available. Not readily biodegradable in water.	
Bisphenol A diglycidyl ether resin (25085-99-8	3)	
Persistence and degradability	Not readily biodegradable in water.	
12.3. Bioaccumulative potential		
Silver (7440-22-4)		
BCF - Fish [1]	70 (30 day(s), Cyprinus carpio, Fresh water, Experimental value, Fresh weight)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	
Reactive Diluent		
Partition coefficient n-octanol/water (Log Pow)	2.16 (Estimated value)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Bisphenol A diglycidyl ether resin (25085-99-8	3)	
Partition coefficient n-octanol/water (Log Pow)	3.242 (Literature)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
12.4. Mobility in soil		
Silver (7440-22-4)		
Ecology - soil	No (test)data on mobility of the substance available.	
Bisphenol A diglycidyl ether resin (25085-99-8	3)	
Ecology - soil	Low potential for mobility in soil.	
12.5. Other adverse effects		
No additional information available		

SECTION 13: Disposal considerations	
13.1. Disposal methods	
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.

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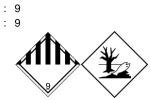
SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number	
DOT NA No UN-No. (TDG) UN-No. (IMDG) UN-No. (IATA)	: UN3082 : UN3082 : 3082 : 3082
14.2. UN proper shipping name	
Proper Shipping Name (DOT) Proper Shipping Name (TDG)	 Environmentally hazardous substances, liquid, n.o.s. (Silver, Bisphenol A Diglycidyl Ether Resin) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver, Bisphenol A Diglycidyl Ether Resin)
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver, Bisphenol A Diglycidyl Ether Resin)
Proper Shipping Name (IATA)	: Environmentally hazardous substance, liquid, n.o.s. (Silver, Bisphenol A Diglycidyl Ether Resin)
14.3. Transport hazard class(es)	

DOT

Transport hazard class(es) (DOT) Hazard labels (DOT)



TDG Transport hazard class(es) (TDG) Hazard labels (TDG)	
IMDG Transport hazard class(es) (IMDG) Hazard labels (IMDG)	: 9 : 9
IATA Transport hazard class(es) (IATA) Hazard labels (IATA)	: 9 : 9

14.4. Packing group

Packing group (DOT)

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Packing group (TDG) Packing group (IMDG) Packing group (IATA)	: III : III : III
14.5. Environmental hazards	
Dangerous for the environment Marine pollutant	: Yes : Yes
Other information	: No supplementary information available.
14.6. Special precautions for user	
DOT UN-No.(DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) DOT Vessel Stowage Location	 UN3082 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s." UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal
TDG UN-No. (TDG)	passenger vessel. : UN3082

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TDG Special Provisions	 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in
	parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in
	parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).(2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for
	domestic transport or an international convention for international transport prohibits the disclosure of the technical name:
	(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;
	(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;
	(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or
	(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.
	(3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:
	(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or
	(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY
	HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and
	during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General
	Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY
	HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport,
	including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	: 5 L
Excepted quantities (TDG)	: E1
Emergency Response Guide (ERG) Number	: 171
IMDG Special provision (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Packing provisions (IMDG) IBC packing instructions (IMDG)	: PP1 : IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
	. 54
PCA Excepted quantities (IATA)	: E1 : Y964
PCA Limited quantities (IATA) PCA limited quantity max net quantity (IATA)	: 1964 : 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L

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Special provision (IATA) ERG code (IATA)

:	A97, A158, A197, A215
:	9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory			
Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.			
Silver	CAS-No. 7440-22-4 ≥ 60%		
	•	·	
Silver (7440-22-4)			
CERCLA RQ	1000 lb		
15.2. International regulations			
CANADA			
Silver (7440-22-4)			
Listed on the Canadian DSL (Domestic Substances List)			

Reactive Diluent

Listed on the Canadian DSL (Domestic Substances List)

Disphanal A	dialucidul ether reci	(25005 00 0)
Displient A	diglycidyl ether resi	1 (25065-99-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Silver (7440-22-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Bisphenol A diglycidyl ether resin (25085-99-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
Silver(7440-22-4)	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-phrases	
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



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SECTION 1: Identification			
1.1. Identification			
Product form Product name	: Mixture : EPO-TEK® M	ED-H20S PA	ART B
1.2. Recommended use and restrictio	ns on use		
Use of the substance/mixture Recommended use Restrictions on use	: Adhesives : Adhesives : Not to be used	d for any purp	bose other than the one the product was designed for
1.3. Supplier			
Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA T 978-667-3805 - F 978-663-9782 www.epotek.com			
1.4. Emergency telephone number			
Emergency number	: VelocityEHS:	+1 (800) 255-	-3924, +1 (813) 248-0585
SECTION 2: Hazard(s) identification			
GHS US classification			
Acute toxicity (oral) Category 4 Serious eye damage/eye irritation Category 1 Hazardous to the aquatic environment – Acute Hazardous to the aquatic environment – Chro Full text of H statements : see section 16		H302 H318 H400 H410	Harmful if swallowed Causes serious eye damage Very toxic to aquatic life Very toxic to aquatic life with long lasting effects
2.2. GHS Label elements, including pr	ecautionary stateme	ents	
GHS US labeling			
Hazard pictograms (GHS US)		· (!	
Signal word (GHS US) Hazard statements (GHS US)	: Danger : H302 - Harmfr H318 - Cause H400 - Very to H410 - Very to	s serious eye oxic to aquation	damage
Precautionary statements (GHS US)	: P264 - Wash	hands, forear	rms and face thoroughly after handling. smoke when using this product.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P310 - Immediately call a poison center or doctor. P330 - Rinse mouth.

P391 - Collect spillage.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Harmful dust may be released during cutting, milling or grinding process.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Silver	CAS-No.: 7440-22-4	≥ 60	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Reactive diluent*	CAS-No.: Trade Secret	5 – 10	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 STOT SE 3, H336
Substituted imidazole*	CAS-No.: Trade Secret	5 – 10	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Comments : Components not listed are either non-hazardous or are below reportable limits. Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures		
4.1. Description of first aid measures		
First-aid measures after inhalation First-aid measures after skin contact First-aid measures after eye contact	 Remove person to fresh air and keep comfortable for breathing. Wash skin with plenty of water. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. 	
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.	
4.2. Most important symptoms and effects (acute and delayed)		
Symptoms/effects after eye contact	: Serious damage to eyes.	
4.3. Immediate medical attention and special treatment, if necessary		

Treat symptomatically.

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SECTION 5: Fire-fighting measures			
5.1. Suitable (and unsuitable) extinguishing	j media		
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.		
5.2. Specific hazards arising from the chemical			
Hazardous decomposition products in case of fire	: Toxic fumes may be released.		
5.3. Special protective equipment and precautions for fire-fighters			
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.		

SECTION 6: Accidental release measures			
6.1. Personal precautions, protective equipment and emergency procedures			
6.1.1. For non-emergency personnel			
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes.		
6.1.2. For emergency responders			
Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".		
6.2. Environmental precautions			
Avoid release to the environment.			

6.3. Methods and material for containment and cleaning up		
For containment Methods for cleaning up Other information	 Collect spillage. Take up liquid spill into absorbent material. Dispose of materials or solid residues at an authorized site. 	

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage			
7.1. Precautions for safe handling			
Precautions for safe handling Hygiene measures	 Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Always wash hands after handling the 		
product. 7.2. Conditions for safe storage, including any incompatibilities			

Storage conditions

: Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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8.2. Appropriate engineering controls

Appropriate engineering controls Environmental exposure controls : Ensure good ventilation of the work station.: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Silver
Odor	: slight
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information	
11.1. Information on toxicological effects	
Acute toxicity (dermal)	Harmful if swallowed. Not classified Not classified
EPO-TEK® MED-H20S PART B	
ATE US (oral)	784.468 mg/kg body weight
Silver (7440-22-4)	
LD50 oral rat	> 2000 mg/kg Source: ECHA
LD50 dermal rat	> 2000 mg/kg Source: ECHA
LC50 Inhalation - Rat	> 5.16 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)
ATE US (oral)	5000 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight
Substituted imidazole	
ATE US (oral)	100 mg/kg body weight
Reactive diluent	
LD50 oral rat	1582 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 8 day(s))

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Reactive diluent	
LC50 Inhalation - Rat	> 5.1 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (mixture of vapour and aerosol), 14 day(s))
ATE US (oral)	800 mg/kg body weight
ATE US (dermal)	5600 mg/kg body weight
ATE US (dust, mist)	5.1 mg/l/4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reactive diluent	
NOAEL (chronic,oral,animal/male,2 years)	225 mg/kg body weight Animal: rat, Animal sex: male, Guideline: other:NTP Protocol, Remarks on results: other:Effect type: carcinogenicity (migrated information)
NOAEL (chronic,oral,animal/female,2 years)	450 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:NTP Protocol, Remarks on results: other:Effect type: carcinogenicity (migrated information)
IARC group	3 - Not classifiable
Reproductive toxicity	Not classified
STOT-single exposure	: Not classified
Substituted imidazole	
STOT-single exposure	May cause respiratory irritation.
Reactive diluent	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Silver (7440-22-4)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after eye contact	: Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity		
Ecology - general :	Very toxic to aquatic life with long lasting effects.	
Silver (7440-22-4)		
LC50 - Fish [1]	4.7 μg/l Test organisms (species): Pimephales promelas	
LC50 - Fish [2]	89.4 μg/l Test organisms (species): Pimephales promelas	
ErC50 algae	0.285 μg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)	
Reactive diluent		
LC50 - Fish [1]	56 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)	

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Reactive diluent	
EC50 - Crustacea [1]	> 500 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 1000 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Estimated value)

12.2. Persistence and degradability

Silver (7440-22-4)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
Reactive diluent	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	1.67 g O ₂ /g substance

12.3. Bioaccumulative potential

Silver (7440-22-4)		
BCF - Fish [1]	F - Fish [1] 70 (30 day(s), Cyprinus carpio, Fresh water, Experimental value, Fresh weight)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	
Reactive diluent		
BCF - Other aquatic organisms [1]	3.162 l/kg (BCFBAF v3.00, Calculated value, Fresh weight)	
Partition coefficient n-octanol/water (Log Pow)	Log Pow) -0.566 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)	
Bioaccumulative potential	Not bioaccumulative.	

12.4. Mobility in soil

Silver (7440-22-4)	
Ecology - soil	No (test)data on mobility of the substance available.
Reactive diluent	
Surface tension	No data available (test not performed)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.544 – 0.811 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considera	ations
13.1. Disposal methods	
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.

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SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No	:	UN3082
UN-No. (TDG)	:	UN3082
UN-No. (IMDG)	:	3082
UN-No. (IATA)	:	3082

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Environmentally hazardous substances, liquid, n.o.s. (Silver)
Proper Shipping Name (TDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver)
Proper Shipping Name (IATA)	: Environmentally hazardous substance, liquid, n.o.s. (Silver)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) Hazard labels (DOT)



TDG

Transport hazard class(es) (TDG) Hazard labels (TDG)



IMDG

Transport hazard class(es) (IMDG) Hazard labels (IMDG)

: 9 : 9

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Transport hazard class(es) (IATA) Hazard labels (IATA)



: 111

: 111

: 111

14.4. Packing group

Packing group (DOT) Packing group (TDG) Packing group (IMDG)

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Packing group (IATA)	: 111
14.5. Environmental hazards	
Dangerous for the environment Marine pollutant	: Yes : Yes
Other information	: No supplementary information available.
14.6. Special precautions for user	
DOT UN-No.(DOT) DOT Special Provisions (49 CFR 172.102) DOT Packaging Exceptions (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Quantity Limitations Passenger aircraft/rail (44 CFR 173.27) DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) DOT Vessel Stowage Location	: No Limit : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a
-	passenger vessel.
TDG UN-No. (TDG)	: UN3082

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TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause
	3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in
	parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).(2) Despite subsection (1), the technical name for the following dangerous goods is not required
	to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the diaglacure of the technical parts:
	disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;
	(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;
	(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or
	(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.(3) Despite subsection (1), the technical name for the following dangerous goods is not required
	to be shown on a small means of containment:
	 (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that
	are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and
	during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General
	Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY
	HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport,
	including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	: 5L
Excepted quantities (TDG)	: E1
Emergency Response Guide (ERG) Number	: 171
IMDG Special provision (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG) Tank instructions (IMDG)	: IBC03 : T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
	. 51
PCA Excepted quantities (IATA) PCA Limited quantities (IATA)	: E1 : Y964
PCA limited quantities (IATA) PCA limited quantity max net quantity (IATA)	: 1964 : 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L

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Special provision (IATA) ERG code (IATA)

:	A97,	A158,	A197,	A215
·	9L			

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are pr (TSCA) inventory	esent and listed as Active on the United States E	Environmental Protection Agency Toxic Substances Control Act
Chemical(s) subject to the reporting r and 40 CFR Part 372.	equirements of Section 313 or Title III of the Sup	perfund Amendments and Reauthorization Act (SARA) of 1986
Silver	CAS-No. 7440-22-4	≥ 60%
Silver (7440-22-4) CERCLA RQ	1000 lb	
15.2. International regulations		
CANADA		
Silver (7440-22-4)		
Listed on the Canadian DSL (Domes	tic Substances List)	
Substituted imidazole		

Listed on the Canadian DSL (Domestic Substances List)

Reactive diluent

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Silver (7440-22-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Reactive diluent

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
Silver(7440-22-4)	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Full text of H-phrases		
H301	Toxic if swallowed	
H302	Harmful if swallowed	
H315	Causes skin irritation	
H318	Causes serious eye damage	
H335	May cause respiratory irritation	
H336	May cause drowsiness or dizziness	
H400	Very toxic to aquatic life	
H410	Very toxic to aquatic life with long lasting effects	

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.