

# SHIELDOKIT CONDUCTIVE GLUE (COMPONENT A) 3980

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Detail : 3980 Electrically Conductive Adhesive (Shieldokit)  
 Application of the substance / the preparation: Conductive Glue (component A)  
 Manufacturer / supplier: Holland Shielding Systems B.V.  
 Jacobus Lipsweg 124  
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 the Netherlands  
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## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories	
Skin corrosion/irritation	Skin Irrit. 2
Serious eye damage/eye irritation	Eye Irrit. 2
Respiratory or skin sensitisation	Skin Sens. 1
Hazardous to the aquatic environment	Aquatic Acute 1
Hazardous to the aquatic environment	Aquatic Chronic 1
Hazard Statements	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

### 2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling	
Reaction product	bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700) 1,4-bis(2,3 epoxypropoxy)butane, butanedioldiglycidyl ether
Signal word	Warning
Pictograms	
Hazard statements	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements	
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.

### 2.3. Other hazards

No data available.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2. Mixtures

Silver pigmented adhesive

CAS No	Chemical name	Quantity	
	EC No	Index No	REACH No
Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7440-22-4	Silver powder	80- < 85 %	
	231-131-3		
	Aquatic Acute 1 (M-Factor = 1000), Aquatic Chronic 1 (M-Factor = 100); H400 H410		
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <=700)	15- < 20 %	
	500-033-5	603-074-00-8	
	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H319 H315 H317 H411		
2425-79-8	1,4-bis(2,3 epoxypropoxy)butane, butanedioldiglycidyl ether	1- < 5 %	
	219-371-7	603-072-00-7	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1; H332 H312 H319 H315 H317		

Full text of H and EUH statements: see section 16.

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

General information	Remove contaminated soaked clothing immediately. In the event of persistent symptoms receive medical treatment.
After inhalation	Move to fresh air in case of accidental inhalation of vapours or decomposition products. In the event of symptoms refer for medical treatment.
After contact with skin	Wash off immediately with soap and plenty of water. Consult a doctor if skin irritation persists.
After contact with eyes	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.
After ingestion	Immediately give plenty of water (if possible charcoal slurry). Never give anything by mouth to an unconscious person. Do not induce vomiting. Summon a doctor immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

No data available.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms.

## 5. FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable extinguishing media

Foam, carbon dioxide (CO<sub>2</sub>), dry chemical, water-spray.

#### Unsuitable extinguishing media

Full water jet.

### 5.2. Special hazards arising from the substance or mixture

Fire may produce:

Irritant/corrosive, flammable as well as toxic distillation gases (carbonization gases).

### 5.3. Advice for firefighters

Use breathing apparatus with independent air supply.



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## Additional information

Cool containers at risk with water spray jet.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

In case of vapour formation use respirator.  
Ensure adequate ventilation.  
Use personal protective clothing.  
Keep away from sources of ignition- No smoking.

### 6.2. Environmental precautions

Clean contaminated surface thoroughly.  
Do not discharge into the drains/surface waters/ground water.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).  
Shovel into suitable container for disposal.

### 6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).  
Information for disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

#### Advice on safe handling

Keep container tightly closed.  
Use only in thoroughly ventilated areas.  
Avoid contact with skin, eyes and clothing.

#### Advice on protection against fire and explosion

No special protective measures against fire required.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.  
Protect against direct sun radiation.  
Keep container tightly closed.

#### Advice on storage compatibility

Incompatible with:  
Oxidizing agents  
Acids and bases.

#### Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

Metallisation

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

CAS No	Substance	ppm	mg/m <sup>3</sup>	Fibers/ml	Category	Origin
84-66-2	Diethyl phthalate	-	5		TWA (8 h)	WEL
		-	10		STEL (15 min)	WEL
7440-22-4	Silver, metallic	-	0.1		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

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## 8.2. Exposure controls

Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas.
Protective and hygiene measures	Do not inhale vapours. Wash hands before breaks and immediately after handling the product . When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothing. Keep away from sources of ignition- No smoking. Remove and wash contaminated clothes before re-use.
Eye/face protection	Eye wash bottle with pure water (EN 15154). Tightly fitting goggles (EN 166)
Hand protection	Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0.7 mm, permeation resistance (wear duration) > 60 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de. This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions. Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.
Skin protection	Long sleeved clothing (EN 368). Safety footwear (EN 345)
Respiratory protection	Use suitable breathing apparatus if there is inadequate ventilation.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	Silver-grey
Odour	Characteristic
pH-Value (at 20 °C)	N.A.
Changes in the physical state	
Initial boiling point and boiling range	> 200 °C
Flash point	> 160 °C      DIN 51758
Vapour pressure (at 25 °C)	< 0.0001 hPa
Density (at 25 °C)	1.1- 1.2 g/cm <sup>3</sup>
Water solubility (at 20 °C)	More or less insoluble

### 9.2. Other information

No data available.

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No decomposition if stored and applied as directed.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No hazardous reactions known.

### 10.4. Conditions to avoid

No decomposition if used as directed.

### 10.5. Incompatible materials

Strong oxidizing agents  
Strong acids and strong bases

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

### Further information

No decomposition if stored and applied as directed.



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## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Method	Dose	Species	Source
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)				
	Dermal	LD50	11400 mg/kg	Rat	
2425-79-8	1.4-bis(2.3 epoxypropoxy)butane, butanedioldiglycidyl ether				
	Dermal	ATE	1100 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1.5 mg/l		

Irritation and corrosivity	Causes skin irritation. Causes serious eye irritation.
Sensitising effects	May cause an allergic skin reaction. (Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700) ; 1.4-bis(2.3 epoxypropoxy) butane, butanedioldiglycidyl ether)
STOT-single exposure	Based on available data, the classification criteria are not met.
Severe effects after repeated or prolonged exposure	Based on available data, the classification criteria are not met.
Carcinogenic/mutagenic/toxic effects for reproduction	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

### Practical experience

#### Observations relevant to classification

Sensitization through skin contact possible.

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

No data available.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h]   [d]	Species	Source
7440-22-4	Silver powder					
	Acute fish toxicity	LC50	0.003 mg/l	96 h	Oncorhynchus mykiss	
	Acute crustacea toxicity	EC50	0.00022 mg/l	48 h	Daphnia magna	
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)					
	Acute fish toxicity	LC50	3.6 mg/l	96 h	Leuciscus idus	
	Acute algae toxicity	ErC50	220 mg/l	96 h	Scenedesmus subspicatus	
	Acute crustacea toxicity	EC50	2.8 mg/l	48 h	Daphnia magna	

### 12.2. Persistence and degradability

No data available.

### 12.3. Bioaccumulative potential

No data available.

### 12.4. Mobility in soil

No data available.

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## 12.5. Results of PBT and vPvB assessment

No data available.

## 12.6. Other adverse effects

No data available.

## Further information

Do not flush into surface water or sanitary sewer system.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Advice on disposal

Where possible recycling is preferred to disposal.

Can be incinerated, when in compliance with local regulations.

#### Waste disposal number of waste from residues/unused products


070208 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; other still bottoms and reaction residues; hazardous waste


#### Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packagings are to be treated like the product itself.

## 14. TRANSPORT INFORMATION

Land transport (ADR/RID)	
14.1. UN number	UN 3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver powder)
14.3. Transport hazard class(es)	9
14.4. Packing group:	III
Hazard label:	
Classification code	M6
Limited quantity	5 L
Transport category	3
Hazard No:	90
Tunnel restriction code	-

Inland waterways transport (ADN)	
14.1. UN number	UN 3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver powder)
14.3. Transport hazard class(es)	9
14.4. Packing group:	III
Hazard label:	
Classification code	M6
Limited quantity	5 L



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Marine transport (IMDG)	
14.1. UN number	UN 3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver powder)
14.3. Transport hazard class(es)	9
14.4. Packing group:	III
Hazard label:	
Limited quantity	5 L
EmS	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)	
14.1. UN number	UN 3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver powder)
14.3. Transport hazard class(es)	9
14.4. Packing group:	III
Hazard label:	
Limited quantity Passenger	30 kg G
IATA-packing instructions- Passenger:	964
IATA-max. quantity- Passenger:	450 L
IATA-packing instructions- Cargo	964
IATA-max. quantity- Cargo	450 L

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:



yes

### 14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practices.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

The transport takes place only in approved and appropriate packaging.

## 15. REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulatory information

Water contaminating class (D): 2- water contaminating

#### Additional information

"ZH 1/301 ""Data Sheet: Polyester and Epoxide resins (M 023)"""

### 15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Silver powder

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## 16. OTHER INFORMATION

### Changes

Changes in chapter: 2, 3,

### Abbreviations and acronyms

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
RID	Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
IMDG	International Maritime Code for Dangerous Goods
IATA/ICAO	International Air Transport Association / International Civil Aviation Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
IBC-Code	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
CAS	Chemical Abstract Service
EN	European norm
ISO	International Organization for Standardization
DIN	Deutsche Industrie Norm
PBT	Persistent Bioaccumulative and Toxic
LD	Lethal dose
LC	Lethal concentration
EC	Effect concentration
IC	Median immobilisation concentration or median inhibitory concentration

### Relevant H and EUH statements (number and full text)

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
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.

### Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*