

Issuing Date 01-Jul-2015

Revision Date 01-Jul-2015

Revision Number 0

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

### GHS product identifier

**Product Name** HD-50 LEW51 (TR50612)

### Other means of identification

**UN-Number** UN3082

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Solder Mask

**Uses advised against** No information available

### Supplier's details

**Supplier Address**

Taiyo America, Inc.  
2675 Antler Drive  
Carson City, NV 89701  
TEL: 775-885-9959

### Emergency telephone number

**Emergency Telephone Number** 011-775-461-8401

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1

### GHS Label elements, including precautionary statements

#### Emergency Overview

<b>Signal Word</b>	<b>Warning</b>
<b>Hazard Statements</b>	
<ul style="list-style-type: none"> <li>• Causes skin irritation</li> <li>• Causes serious eye irritation</li> <li>• May cause an allergic skin reaction</li> </ul>	

**Appearance** Clear to Pale Yellow**Physical State** Viscous liquid.**Odor** Mild Solvent**Precautionary Statements****Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/protective clothing/eye protection/face protection.

**General Advice**

- Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

**Skin**

- IF ON SKIN: Wash with plenty of soap and water.
- Take off contaminated clothing and wash before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.

**Storage**

- None

**Disposal**

- Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**

Toxic to aquatic life with long lasting effects

50.62% of the mixture consists of ingredient(s) of unknown toxicity.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS-No	Weight %	Trade secret
Bisphenol A - Epichlorohydrin polymer	25068-38-6	30-40	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. FIRST AID MEASURES****Description of necessary first-aid measures****Eye Contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

**Skin Contact**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

**Most important symptoms/effects, acute and delayed****Most Important Symptoms/Effects** No information available.**Indication of immediate medical attention and special treatment needed, if necessary****Notes to Physician** Treat symptomatically.**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.**Unsuitable Extinguishing Media** No information available.**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Explosion Data****Sensitivity to Mechanical Impact**

None.

**Sensitivity to Static Discharge**

None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Avoid contact with the skin and the eyes. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

**Environmental Precautions****Environmental Precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Avoid release to the environment.

**Methods and materials for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up**

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE****Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Do not take internally. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.
<b>Incompatible Products</b>	Strong oxidizing agents.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Control parameters**

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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**Appropriate engineering controls**

<b>Engineering Measures</b>	Showers Eyewash stations Ventilation systems
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**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Tightly fitting safety goggles.
<b>Skin and Body Protection</b>	Lightweight protective clothing. Impervious gloves.
<b>Respiratory Protection</b>	In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical State</b>	Viscous liquid.	<b>Appearance</b>	Clear to Pale Yellow.
<b>Odor</b>	Mild Solvent.	<b>Odor Threshold</b>	No information available.

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks/ - Method</u></b>
<b>pH</b>	No data available	None known
<b>Melting Point/Range</b>	No data available	None known
<b>Boiling Point/Boiling Range</b>	No data available	None known
<b>Flash Point</b>	107 °C / 224.6 °F	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limits in Air</b>		
upper flammability limit	No data available	
lower flammability limit	No data available	
<b>Vapor Pressure</b>	No data available	None known
<b>Vapor Density</b>	No data available	None known
<b>Specific Gravity</b>	No data available	None known
<b>Water Solubility</b>	No data available	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	No data available	None known
<b>Autoignition Temperature</b>	No data available	None known
<b>Decomposition Temperature</b>	No data available	None known
<b>Viscosity</b>	No data available	None known
<b>Flammable Properties</b>	Not flammable	
<b>Explosive Properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other information**

VOC Content (%)	No data available
VOC (g/l)	191

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

Incompatible products.

### Incompatible materials

Strong oxidizing agents.

### Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	No known effect based on information supplied.
<b>Eye Contact</b>	Irritating to eyes. Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Ingestion</b>	No known effect based on information supplied

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bisphenol A - Epichlorohydrin polymer	11400 mg/kg ( Rat )	-	-

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** No information available.

### Delayed and immediate effects and also chronic effects from short and long term exposure

<b>Sensitization</b>	May cause sensitization of susceptible persons. May cause sensitization by skin contact.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredients above reportable quantities listed as a carcinogen.

**Reproductive Toxicity** No information available.

<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity - Product**

**Acute Toxicity** 50.62% of the mixture consists of ingredient(s) of unknown toxicity.

*The following values are calculated based on chapter 3.1 of the GHS document:*

<b>LD50 Oral</b>	11260 mg/kg; Acute toxicity estimate
<b>LD50 Dermal</b>	29270895 mg/kg; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

**Other Adverse Effects**

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging** Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

**Note:** Not regulated in quantities less than 5 liter per individual container. See IATA SP A197, IMDG 2.10.2.7 and ADR SP 375.

**DOT**

<b>UN-Number</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III
<b>Emergency Response Guide Number</b>	171

**TDG**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III

**MEX**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III

**ICAO**

<b>UN-Number</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.

<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, III

**IATA**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>ERG Code</b>	9L
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III

**IMDG/IMO**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>EmS No.</b>	F-A, S-F
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III

**RID**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Classification Code</b>	M6
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III

**ADR**

<b>UN-Number</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Classification Code</b>	M6
<b>Tunnel Restriction Code</b>	(E)
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III, (E)
<b>ADR/RID-Labels</b>	9

**ADN**

<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Classification Code</b>	M6
<b>Special Provisions</b>	274, 335, 601
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A - Epichlorohydrin polymer), 9, III
<b>Limited Quantity</b>	5 L

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

<b>TSCA</b>	Complies
<b>DSL</b>	All components are listed either on the DSL or NDSL.

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**U.S. Federal Regulations**

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:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Diethylene glycol monoethyl ether acetate	112-15-2	10-20	1.0

#### SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

#### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### U.S. State Regulations

##### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Diethylene glycol monoethyl ether acetate	X		X	X	

#### U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

### 16. OTHER INFORMATION

<u>NFPA</u>	Health Hazard 2	Flammability 1	Instability 0	Physical and Chemical Hazards -
<u>HMIS</u>	Health Hazard 2	Flammability 1	Physical Hazard 0	Personal Protection X

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Issuing Date 01-Jul-2015  
Revision Date 01-Jul-2015  
Revision Note No information available.

#### General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**