



# SAFETY DATA SHEET

Issuing Date 24-May-2015

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Revision Number 0

## Section 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product Code(s) 400000

Product Name HD-3

Contains Diethylene glycol monobutyl ether, Bisphenol A - Epichlorohydrin polymer

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Solder mask part B

Uses advised against No information available

### 1.3. Details of the supplier of the safety data sheet

#### Company

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

#### For further information, please contact

E-mail Address No information available.

### 1.4. Emergency telephone number

Emergency Telephone Number 775-885-9959

Europe	112
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## Section 2. Hazards identification

### 2.1. - Classification of the substance or mixture

#### REGULATION (EC) No 1272/2008

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Chronic Aquatic Toxicity	Category 3

#### Physical Hazards

None

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

Symbol(s) Xn - Harmful  
R-code(s) Xn;R22 - Xi;R36/38 - R43 - R52-53

For the full text of the R-phrases mentioned in this Section, see Section 16

### 2.2. Label Elements

**Signal Word****Warning****Hazard Statements**

H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H412 - Harmful to aquatic life with long lasting effects  
 EUH210 - Safety data sheet available on request

**Precautionary Statements**

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P362 - Take off contaminated clothing and wash before reuse  
 P273 - Avoid release to the environment  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**2.3. Other information**

## Section 3. Composition/information on ingredients

**3.1. Substances**

Not applicable

**3.2. Mixtures**

Chemical Name	EC-No	CAS-No	Weight %	Classification	EU - GHS Substance Classification	REACH No.
Diethylene glycol monobutyl ether	203-961-6	112-34-5	15-40	Xi; R36	Eye Irrit. 2 (H319)	01-2119475104-44-XXXX
Diatomaceous earth	-	61790-53-2	10-30	-		No data available
Bisphenol A - Epichlorohydrin polymer	500-033-5	25068-38-6	<25	Xi; R36/38 R43 N; R51-53	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411)	No data available

**For the full text of the R-phrases mentioned in this Section, see Section 16**

**For the full text of the H-Statements mentioned in this Section, see Section 16**

## Section 4. First aid measures

**4.1. Description of first-aid measures****General Advice**

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
<b>Protection of First-aiders</b>	Use personal protective equipment.

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

**Most Important Symptoms/Effects** No information available.

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

**Notes to Physician** May cause sensitization of susceptible persons. Treat symptomatically.

### **Section 5. Fire-fighting measures**

#### **5.1. Extinguishing media**

**Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.

**Extinguishing media which must not be used for safety reasons**

No information available.

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

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**

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

#### **5.3. Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

### **Section 6. Accidental release measures**

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

Avoid contact with skin, eyes and clothing. 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.

#### **6.2. Environmental precautions**

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

#### **6.3. Methods and materials for containment and cleaning up**

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

#### **6.4. Reference to other sections**

See Section 12 for additional information.

### **Section 7. Handling and storage**

#### **7.1. 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.

**Hygiene Measures**

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

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

Keep out of the reach of children. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place.

**7.3. Specific end use(s)****Exposure Scenario**

No information available.

**Other Guidelines**

No information available.

**Section 8. Exposure controls/personal protection****8.1. Control parameters****Exposure Limits**

Chemical Name	EU	The United Kingdom	France	Spain	Germany
Diethylene glycol monobutyl ether 112-34-5	TWA 10 ppm TWA 67.5 mg/m <sup>3</sup> STEL 15 ppm STEL 101.2 mg/m <sup>3</sup>	STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup> TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup> STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup>	STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup> TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 67 mg/m <sup>3</sup> Ceiling / Peak: 15 ppm Ceiling / Peak: 100.5 mg/m <sup>3</sup>
Diatomaceous earth 61790-53-2		STEL: 3.6 mg/m <sup>3</sup> TWA: 1.2 mg/m <sup>3</sup>		VLA-ED: 10 mg/m <sup>3</sup> VLA-ED: 3 mg/m <sup>3</sup>	MAK: 4 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>
Component	Italy	Portugal	The Netherlands	Finland	Denmark
Diethylene glycol monobutyl ether 112-34-5 ( 15-40 )	TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup> STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup>		Skin STEL: 100 mg/m <sup>3</sup> TWA: 50 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 68 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 68 mg/m <sup>3</sup>
Diatomaceous earth 61790-53-2 ( 10-30 )				TWA: 5 mg/m <sup>3</sup>	TWA: 1.5 mg/m <sup>3</sup>
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Diethylene glycol monobutyl ether 112-34-5	STEL 15 ppm STEL 101.2 mg/m <sup>3</sup> TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup>	STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup> TWA: 10 ppm TWA: 67 mg/m <sup>3</sup>	STEL: 100 mg/m <sup>3</sup> TWA: 67 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 68 mg/m <sup>3</sup> STEL: 20 ppm STEL: 102 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 67.5 mg/m <sup>3</sup> STEL: 15 ppm STEL: 101.2 mg/m <sup>3</sup>
Diatomaceous earth 61790-53-2	MAK: 4 mg/m <sup>3</sup>	MAK: 4 mg/m <sup>3</sup>	NDS: 10 mg/m <sup>3</sup> NDS: 2.0 mg/m <sup>3</sup>	TWA: 1.5 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	

**Derived No Effect Level** No information available

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment****Eye Protection**

Tightly fitting safety goggles.

**Skin and Body Protection**

Lightweight protective clothing. Impervious gloves.

<b>Hand Protection</b>	Protective 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.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## Section 9. Physical and chemical properties

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

<b>Physical State</b>	Viscous liquid	<b>Appearance</b>	Brown
<b>Odor</b>	Mild Solvent		

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
<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>	110 °C	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Vapor Pressure</b>	No data available	None known
<b>Vapor Density</b>	No data available	None known
<b>Relative Density</b>	1.17	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>	Combustible material: may burn but does not ignite readily.	
<b>Explosive Properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

### 9.2. Other information

<b>VOC Content (%)</b>	25
<b>VOC (g/l)</b>	290
<b>Flammability Limits in Air</b>	No data available

## Section 10. Stability and reactivity

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None under normal processing.

### 10.4. Conditions to avoid

Incompatible products.

### 10.5. Incompatible materials

Oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

## Section 11. Toxicological information

**11.1. Information on toxicological effects****Acute Toxicity****Product Information****Inhalation**

No known effect based on information supplied.

**Eye Contact**

Irritating to eyes. Causes serious eye irritation.

**Skin Contact**

Causes skin irritation. May cause allergic skin reaction

**Ingestion**

No known effect based on information supplied

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monobutyl ether	= 3384 mg/kg ( Rat )	= 2700 mg/kg ( Rabbit )	
Bisphenol A - Epichlorohydrin polymer	11400 mg/kg ( Rat )	-	-

**Sensitization**

May cause sensitization of susceptible persons. May cause sensitization by skin contact.

**Mutagenic Effects**

No information available.

**Carcinogenic Effects**

Contains no ingredients above reportable quantities listed as a carcinogen.

**Reproductive Toxicity**

No information available.

**Developmental Toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration Hazard**

No information available.

**Section 12. Ecological information****12.1. Toxicity****Ecotoxicity Effects**

Harmful to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Diethylene glycol monobutyl ether	EC50 96 h: > 100 mg/L (Desmodesmus subspicatus)	LC50 96 h: = 1300 mg/L static (Lepomis macrochirus)		EC50 24 h: = 2850 mg/L (Daphnia magna) EC50 48 h: > 100 mg/L (Daphnia magna)
Diatomaceous earth		LC50 72 h: > 10000 mg/L (Cyprinus carpio)		

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential.**

No information available.

**12.4. Mobility in soil**

Adsorbs on soil.

**12.5. Results of PBT and vPvB assessment**

No information available.

**12.6. Other adverse effects**

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Bisphenol A - Epichlorohydrin polymer	Group III Chemical		

### Section 13. Disposal considerations

#### 13.1. Waste treatment methods

<b>Waste from Residues / Unused Products</b>	Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>Other Information</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

### Section 14. Transport information

#### IMDG/IMO

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Marine Pollutant	None.
14.6. Special Provisions	None.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available.

#### RID

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

#### ADR

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

#### ICAO

14.1. UN-Number	Not regulated.
14.2. Proper shipping name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

**IATA**

<b>14.1. UN-Number</b>	Not regulated.
<b>14.2. Proper Shipping Name</b>	Not regulated.
<b>14.3. Hazard Class</b>	Not regulated.
<b>14.4. Packing Group</b>	Not regulated.
<b>Description</b>	Not applicable.
<b>14.5. Environmental hazard</b>	None.
<b>14.6. Special Provisions</b>	None.

<b>Section 15. Regulatory information</b>
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**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

<b>TSCA</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>DSL/NDSL</b>	-
<b>PICCS</b>	-
<b>ENCS</b>	-
<b>IECSC</b>	-
<b>AICS</b>	-
<b>KECL</b>	-

**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  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances

**15.2. Chemical Safety Assessment**

No information available

<b>Section 16. Other information</b>
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**Full text of R-phrases referred to under Sections 2 and 3**

R22 - Harmful if swallowed  
R36 - Irritating to eyes  
R43 - May cause sensitization by skin contact

R36/38 - Irritating to eyes and skin  
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Full text of H-Statements referred to under sections 2 and 3**

H319 - Causes serious eye irritation  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H411 - Toxic to aquatic life with long lasting effects  
H412 - Harmful to aquatic life with long lasting effects  
EUH210 - Safety data sheet available on request

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

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Revision Note Initial Release.

This safety data sheet complies with the requirements of Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006

**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