

# SAFETY DATA SHEET

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Revision Number 1

This document complies with the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

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

### GHS product identifier

Product Name HD-3

### Other means of identification

Product Code(s) 400000

Synonyms None

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

Recommended Use Solder mask part B

Uses advised against No information available

### Supplier's details

Initial Supplier  
Canadian address required

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

### Emergency telephone number

Emergency Telephone Number 775-885-9959

## 2. HAZARDS IDENTIFICATION

### Classification

This product is considered hazardous according to the criteria set within the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

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

### Label Elements

#### Warning



**Hazard Statements**

Causes skin irritation  
 Causes serious eye irritation  
 May cause an allergic skin reaction

**Physical and Health Hazards Not Otherwise Classified**

Not applicable.

**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 measures (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.

**Other information**

Harmful to aquatic life with long lasting effects.

20% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Diethylene glycol monobutyl ether	112-34-5	24.75	-	-
Diatomaceous earth	61790-53-2	20	-	-
Bisphenol A - Epichlorohydrin polymer	25068-38-6	19.95	-	-
Silica	112945-52-5	5	-	-

### 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** Itching. Rashes. May cause allergic skin reaction. Skin irritation. Eye irritation/reactions.

**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. May cause sensitization by skin contact.

**Explosion Data**

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	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 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.

**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. See Section 12 for additional Ecological Information.

**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**

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

**Incompatible Products** Strong oxidizing agents.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diethylene glycol monobutyl ether 112-34-5	TWA: 10 ppm inhalable fraction and vapor	-	-
Diatomaceous earth 61790-53-2	-	(vacated) TWA: 6 mg/m <sup>3</sup> Silica, amorphous <1% Crystalline silica : (80)/(% SiO <sub>2</sub> ) mg/m <sup>3</sup> TWA TWA: 20 mppcf	TWA: 5 mg/m <sup>3</sup> respirable dust TWA: 10 mg/m <sup>3</sup> total dust
Silica 112945-52-5	-	(vacated) TWA: 6 mg/m <sup>3</sup> <1% Crystalline silica TWA: 20 mppcf : (80)/(% SiO <sub>2</sub> ) mg/m <sup>3</sup> TWA	IDLH: 3000 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Tightly fitting safety goggles.  
**Skin and Body Protection** Lightweight protective clothing. Impervious gloves.  
**Respiratory Protection** In case of inadequate ventilation wear respiratory protection. If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

**Hygiene Measures** 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>	Brown.
<b>Odor</b>	Mild Solvent.	<b>Odor Threshold</b>	No information available.

<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>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>	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

**Flammable Properties** Combustible material: may burn but does not ignite readily

**Explosive Properties** No data available  
**Oxidizing Properties** No data available

**Other information**

**VOC Content (%)** 25  
**VOC (g/l)** 290

## 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**

**Inhalation** No known effect based on information supplied.  
**Eye Contact** Causes serious eye irritation.  
**Skin Contact** Causes skin irritation. May cause allergic skin reaction.  
**Ingestion** No known effect based on information supplied

**Numerical measures of toxicity - Product**

**Unknown acute toxicity** 20% of the mixture consists of ingredient(s) of unknown toxicity.

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

**LD50 Oral** 6046 mg/kg; Acute toxicity estimate

**LD50 Dermal** 8727 mg/kg; Acute toxicity estimate

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monobutyl ether	= 5660 mg/kg ( Rat )	= 2700 mg/kg ( Rabbit )	-
Bisphenol A - Epichlorohydrin polymer	11400 mg/kg ( Rat )	-	-
Silica	= 3160 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**

**Respiratory or Skin Sensitization** May cause sensitization of susceptible persons. May cause sensitization by skin contact.

**Germ Cell Mutagenicity** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
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Diatomaceous earth		Group 3		X
Silica		Group 3		

**IARC: (International Agency for Research on Cancer)**  
Group 3 - Not Classifiable as to its Carcinogenicity to Humans

**Reproductive Toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Aspiration Hazard** No information available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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 112-34-5	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 61790-53-2		LC50 72 h: > 10000 mg/L (Cyprinus carpio)		
Silica 112945-52-5	EC50 72 h: = 440 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: = 5000 mg/L static (Brachydanio rerio)		EC50 48 h: = 7600 mg/L (Ceriodaphnia dubia)

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

**Mobility** No information available.

**Other Adverse Effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Should not be released into the environment. Dispose of in accordance with local regulations.

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

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**MEX** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Regulations

**Ozone depleting substances** Not applicable

<b>Persistent Organic Pollutants</b>	Not applicable
<b>Hazardous Waste</b>	Not applicable
<b>The Rotterdam Convention (Prior Informed Consent)</b>	Not applicable
<b>International Convention for the Prevention of Pollution from Ships (MARPOL)</b>	Not applicable

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL</b>	Not determined
<b>EINECS</b>	Complies
<b>ELINCS</b>	Complies

**Legend**

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

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**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 monobutyl ether	112-34-5	24.75	1.0

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	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
Diatomaceous earth	X			X	X
Silica	X	X	X		

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION**

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

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**Revision Note** Update to Format.

**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**