

# SAFETY DATA SHEET

Issuing Date 24-May-2015

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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** S-222NA (402LV), S-222NA (402), S-200ELV, S-200YNP

### Other means of identification

**Product Code(s)** 400220, 400220, 400161, 400183

**UN-Number** UN3082

**Synonyms** None

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

**Recommended Use** Solder mask part A

**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.

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1

### Label Elements

#### **Warning**

**Hazard Statements**

Harmful if swallowed  
 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.
- Do not eat, drink or smoke when using this product.
- 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.

**Ingestion**

- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Rinse mouth.

**Storage**

- None

**Disposal**

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

**Other information**

Toxic to aquatic life with long lasting effects.

25.79% 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)
Bisphenol A - Epichlorohydrin polymer	25068-38-6	46.19	-	-

Barium sulfate	7727-43-7	33.08	-	-
Talc	14807-96-6	6.45	-	-
Naphtha (petroleum), heavy aromatic	64742-94-5	2.87	-	-
Carbon black	1333-86-4	1.94	-	-

#### 4. FIRST AID MEASURES

##### Description of necessary first-aid measures

<b>General Advice</b>	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>Inhalation</b>	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.
<b>Ingestion</b>	Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
<b>Protection of First-aiders</b>	Use personal protective equipment.

##### 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** May cause sensitization of susceptible persons. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b><u>Suitable Extinguishing Media</u></b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b><u>Unsuitable Extinguishing Media</u></b>	No information available.
<b><u>Specific Hazards Arising from the Chemical</u></b>	Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b><u>Protective Equipment and Precautions for Firefighters</u></b>	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** Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

##### Environmental Precautions

**Environmental Precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. 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** Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

**Handling** Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product.

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

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

**Incompatible Products** Strong oxidizing agents.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

### **Control parameters**

#### **Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Barium sulfate 7727-43-7	TWA: 5 mg/m <sup>3</sup> inhalable particulate matter, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust
Talc 14807-96-6	TWA: 2 mg/m <sup>3</sup>	(vacated) TWA: 2 mg/m <sup>3</sup>	IDLH: 1000 mg/m <sup>3</sup> containing no asbestos and <1% quartz TWA: 2 mg/m <sup>3</sup>
Carbon black 1333-86-4	TWA: 3 mg/m <sup>3</sup> inhalable particulate matter	TWA: 3.5 mg/m <sup>3</sup> (vacated) TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

*Immediately Dangerous to Life or Health. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH:*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### **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** Protective gloves. Lightweight protective clothing.  
**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should

be worn.

**Hygiene Measures**

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical State</b>	Viscous liquid.	<b>Appearance</b>	Varies.
<b>Odor</b>	Mild Solvent.	<b>Odor Threshold</b>	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	No data available	None known
Flash Point	110 °C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	1.6	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	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 (%)	7
VOC (g/l)	125

## 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** Carbon oxides. Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

<b>Inhalation</b>	There is no data available for this product.
<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. May cause allergic skin reaction.
<b>Ingestion</b>	Harmful if swallowed.

**Numerical measures of toxicity - Product**

**Unknown acute toxicity** 25.79% 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** 1618 mg/kg; Acute toxicity estimate

**LD50 Dermal** 35787 mg/kg; Acute toxicity estimate

**Inhalation**

**dust/mist** 18.4 mg/L; Acute toxicity estimate

**Vapor** 74 mg/L; Acute toxicity estimate

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bisphenol A - Epichlorohydrin polymer	11400 mg/kg ( Rat )	-	-
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg ( Rat )	> 2 mL/kg ( Rabbit )	> 590 mg/m <sup>3</sup> ( Rat ) 4 h
Carbon black	> 15400 mg/kg ( Rat )	> 3 g/kg ( Rabbit )	-
Phthalocyanine green	> 5000 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** This product contains carbon black which is classified as a possible carcinogen when present as respirable dust. This is not relevant for this product since it is not in a respirable form.

Chemical Name	ACGIH	IARC	NTP	OSHA
Talc		Group 3		X
Carbon black	A3	Group 2B	-	X

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC: (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to its Carcinogenicity to Humans

**OSHA: (Occupational Safety & Health Administration)**

X - Present

**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**

Toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)

Talc 14807-96-6		LC50 96 h: > 100 g/L semi-static (Brachydanio rerio)		
Naphtha (petroleum), heavy aromatic 64742-94-5	EC50 72 h: = 2.5 mg/L (Skeletonema costatum)	LC50 96 h: = 1740 mg/L static (Lepomis macrochirus) LC50 96 h: = 19 mg/L static (Pimephales promelas) LC50 96 h: = 2.34 mg/L (Oncorhynchus mykiss) LC50 96 h: = 41 mg/L (Pimephales promelas) LC50 96 h: = 45 mg/L flow-through (Pimephales promelas)		EC50 48 h: = 0.95 mg/L (Daphnia magna)
Carbon black 1333-86-4				EC50 24 h: > 5600 mg/L (Daphnia magna)

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

Chemical Name	Log Pow
Naphtha (petroleum), heavy aromatic	6.1

**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

**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

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

#### TDG

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

#### MEX

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

**IATA**

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

**IMDG/IMO**

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

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

**Ozone depleting substances** Not applicable  
**Persistent Organic Pollutants** Not applicable  
**Hazardous Waste** Not applicable  
**The Rotterdam Convention (Prior Informed Consent)** Not applicable  
**International Convention for the Prevention of Pollution from Ships (MARPOL)** Not applicable

**International Inventories**

**TSCA** Complies  
**DSL** Not determined  
**EINECS** Complies  
**ELINCS** Complies

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**IECSC** - China Inventory of Existing 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	5.62	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 contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Carbon black	1333-86-4	Carcinogen

### 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
Barium sulfate	X	X	X		
Talc	X	X	X	X	X
Carbon black	X	X	X	X	X

### U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

## 16. OTHER INFORMATION

**NFPA** Health Hazard 2 Flammability 1 Instability 0 Physical and Chemical Hazards -

**HMIS** Health Hazard 2 Flammability 1 Physical Hazard 0 Personal Protection X

**Prepared By** Product Stewardship  
23 British American Blvd.  
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1-800-572-6501

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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**