



SAFETY DATA SHEET

Issuing Date 24-May-2015

Revision Date 09-Aug-2015

Revision Number 2

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

GHS product identifier

Product Name CA-41 WL (HD) 70/30

Other means of identification

Product Code(s) 400442

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

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

| | |
|--|-------------|
| Acute Oral Toxicity | Category 4 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Skin Sensitization | Category 1 |
| Germ Cell Mutagenicity | Category 1B |
| Specific Target Organ Toxicity (Repeated Exposure) | Category 2 |
| Flammable liquids | Category 4 |

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word Danger

Hazard Statements

- Harmful if swallowed
- Causes serious eye damage
- May cause an allergic skin reaction
- May cause genetic defects
- May cause damage to organs through prolonged or repeated exposure
-
- Combustible liquid.

**Appearance** Cream**Physical State** Liquid.**Odor** Mild Solvent**Precautionary Statements****Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Keep away from heat/sparks/open flames/hot surfaces - No smoking.
- Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

- If exposed or concerned: Get medical attention/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.
- Immediately call a POISON CENTER or doctor/physician.

Skin

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

Ingestion

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

Fire

- In case of fire: Use CO₂, dry chemical, or foam for extinction.

Storage

- Store locked up.
- Store in a well-ventilated place. Keep cool.

Disposal

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

Hazard Not Otherwise Classified (HNOC)

Not applicable

Other information

6.7% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % | Trade secret |
|---|------------|----------|--------------|
| Barium sulfate | 7727-43-7 | 10-30 | * |
| 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- | 2451-62-9 | 10-30 | * |
| Dipropylene glycol monomethyl ether | 34590-94-8 | 10-30 | * |
| Bentonite | 1302-78-9 | 1-5 | * |

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

4. FIRST AID MEASURES

Description of necessary first-aid measures

| | |
|-----------------------------------|--|
| General Advice | Immediate medical attention is required. If symptoms persist, call a physician. |
| Eye Contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Keep eye wide open while rinsing. 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. |
| Inhalation | Move to fresh air. |
| Ingestion | Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately. |
| Protection of First-aiders | Use personal protective equipment. Avoid contact with skin, eyes and clothing. |

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. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry powder. Dry chemical, CO₂, water spray or regular foam.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Combustible liquid. Vapors may travel to source of ignition and flash back. Burning produces obnoxious and toxic fumes. Risk of ignition. In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition. May cause sensitization by skin contact.

Explosion Data

| | |
|---|-------|
| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge | Yes. |

Protective Equipment and Precautions for Firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Ensure adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment. Remove all sources of ignition. 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. Take precautionary measures against static discharges. Pay attention to flashback.

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. Avoid release to the environment. Dispose of contents/container to an approved waste disposal plant. 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

Use personal protective equipment. Dam up. Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Clean contaminated surface thoroughly.

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

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Keep away from heat, sparks and open flame. No smoking. Do not take internally. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

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

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

Incompatible Products

Strong oxidizing agents. Strong acids. Strong bases.

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 ³ inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica | TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction | TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust |
| 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- 2451-62-9 | TWA: 0.05 mg/m ³ | - | - |

| | | | |
|---|--|--|---|
| Dipropylene glycol monomethyl ether 34590-94-8 | STEL: 150 ppm TWA: 100 ppm S* | TWA: 100 ppm TWA: 600 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 600 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 900 mg/m ³ (vacated) S* | IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m ³ STEL: 150 ppm STEL: 900 mg/m ³ |
| Bentonite 1302-78-9 | TWA: 1 mg/m ³ respirable fraction | - | - |

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**

Safety glasses with side-shields.

Skin and Body Protection

Protective gloves. Lightweight protective clothing.

Respiratory Protection

No special protective equipment required. If exposure limits are exceeded or irritation is experienced, 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. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|---------------|-----------------------|---------------------------|
| Physical State | Liquid. | Appearance | Cream. |
| Odor | Mild Solvent. | Odor Threshold | 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 | 74 °C / 165.2 °F | 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 | No data available | 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 (%) 22
 VOC (g/l) 320 gm/l

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

Heat, flames and sparks. Incompatible products.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides. Barium oxides. Burning produces obnoxious and toxic fumes

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

| | |
|---------------------|--|
| Inhalation | Not an expected route of exposure |
| Eye Contact | Contact with eyes may cause irritation. |
| Skin Contact | May cause irritation. May cause allergic skin reaction |
| Ingestion | Harmful if swallowed. |

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|----------------------|-------------------------|-----------------|
| 1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- | = 188 mg/kg (Rat) | - | - |
| Dipropylene glycol monomethyl ether | = 5230 mg/kg (Rat) | = 9500 mg/kg (Rabbit) | - |

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

| | |
|--------------------------|--|
| Sensitization | May cause sensitization of susceptible persons. May cause sensitization by skin contact. |
| Mutagenic Effects | May cause genetic defects. |
| Carcinogenicity | Contains no ingredients above reportable quantities listed as a carcinogen. |

| | |
|---------------------------------|---|
| Reproductive Toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | May cause damage to organs through prolonged or repeated exposure. |
| Chronic Toxicity | Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons. |
| Target Organ Effects | Respiratory system. Eyes. Central nervous system (CNS). |
| Aspiration Hazard | No information available. |

Numerical measures of toxicity - Product

| | |
|-----------------------|--|
| Acute Toxicity | 6.7% of the mixture consists of ingredient(s) of unknown toxicity. <i>The following values are calculated based on chapter 3.1 of the GHS document:</i> |
| LD50 Oral | 787 mg/kg; Acute toxicity estimate |
| LD50 Dermal | 46817 mg/kg; Acute toxicity estimate |
| Inhalation | |
| dust/mist | 2.2 mg/L; Acute toxicity estimate |
| Vapor | 13 mg/L; Acute toxicity estimate |

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---|-------------------|---|----------------------------|--|
| Dipropylene glycol monomethyl ether 34590-94-8 | | LC50 96 h: > 10000 mg/L static (Pimephales promelas) | | LC50 48 h: = 1919 mg/L (Daphnia magna) |
| Bentonite 1302-78-9 | | LC50 96 h: 8.0-19.0 g/L (Salmo gairdneri) LC50 96 h: = 19000 mg/L static (Oncorhynchus mykiss) | | |

| | |
|--------------------------------------|---------------------------|
| Persistence and Degradability | No information available. |
|--------------------------------------|---------------------------|

Bioaccumulation

| Chemical Name | Log Pow |
|-------------------------------------|---------|
| Dipropylene glycol monomethyl ether | -0.064 |

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

| | |
|-------------------------------|---|
| Waste Disposal Methods | This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements. |
|-------------------------------|---|

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

14. TRANSPORT INFORMATION

| | |
|--------------|---|
| Note: | According to 49 CFR §173.150(f)(1), this material should be reclassified as NA1993, Combustible Liquid, NOS if it is shipped in bulk. |
|--------------|---|

| | |
|------------|---------------|
| DOT | Not regulated |
|------------|---------------|

| | |
|-------------|---------------|
| IATA | Not regulated |
|-------------|---------------|

IMDG/IMO

Not regulated

15. REGULATORY INFORMATION**International Inventories**

TSCA Complies
 EINECS Complies
 ELINCS 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 monoethyl ether acetate | 112-15-2 | 1-5 | 1.0 |

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
 Chronic Health Hazard Yes
 Fire Hazard Yes
 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 |
|--|------------|---------------|--------------|----------|--------------|
| Barium sulfate | X | X | X | | |
| 1,3,5-Triazine-2,4,6-(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)- | X | | | | |
| Dipropylene glycol monomethyl ether | X | X | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

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

**Indicates a chronic health hazard.*

Prepared By Product Stewardship
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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