

SAFETY DATA SHEET

Issuing Date 10-Apr-2020

Revision Date 14-Dec-2022

Revision Number 1

1. Identification

Product identifier

Product Name Thermo Cool 10.2W

Other means of identification

Product Code(s) 800601

Recommended use of the chemical and restrictions on use

Recommended use Conductive ink

Restrictions on use For professional use only

Details of the supplier of the safety data sheet

Supplier Address

Taiyo America, Inc.
2675 Antler Drive
Carson City, NV 89701
TEL: 775-885-9959 (M-F, 8 AM - 4 PM, Pacific Time Zone)

Email SDSinfo@taiyo-america.com

Emergency telephone number

Emergency Telephone Number 1-800-255-3924 (USA) 1-813-248-0585 (International)

2. Hazard(s) identification

Classification

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

| | |
|--------------------|------------|
| Skin sensitization | Category 1 |
| Flammable liquids | Category 4 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Warning

Hazard statements

Combustible liquid.
May cause an allergic skin reaction.

**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing must not be allowed out of the workplace
 Keep away from flames and hot surfaces. - No smoking
 Wear protective gloves/eye protection/face protection

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions on this label)
 IF ON SKIN: Wash with plenty of water and soap
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Causes mild skin irritation. Harmful to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

| Chemical name | CAS No | Weight-% | Trade secret |
|---|-----------|----------|--------------|
| Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol | 9003-36-5 | < 3 | * |
| Bisphenol A diglycidyl ether | 1675-54-3 | < 3 | * |

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

4. First-aid measures

Description of first aid measures**General advice**

Show this safety data sheet to the doctor in attendance.

Inhalation

Get medical attention if symptoms occur.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. In the case of skin irritation or

allergic reactions see a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives. Prolonged contact may cause redness and irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Dry chemical. Dry sand. Alcohol resistant foam.

Unsuitable extinguishing media None known based on information supplied.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|-------------------|
| Appearance | Viscous liquid |
| Physical state | Liquid |
| Color | Light gray |
| Odor | Mild solvent |
| Odor threshold | No data available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---------------------------------------|----------------------|--------------------------------|
| pH | No data available | None known |
| Melting point / freezing point | No data available | None known |
| Boiling point / boiling range | No data available | None known |
| Flash point | > 86 °C / > 186.8 °F | |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |

| | | |
|--|-------------------|------------|
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | No data available | None known |
| Vapor density | No data available | None known |
| Relative density | 2.65 | |
| Water solubility | No data available | None known |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |

Other information

| | |
|-----------------------------|---------------------------|
| Explosive properties | No information available. |
| Oxidizing properties | No information available. |
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | 8.2 |
| VOC | 217.5 g/L |
| Liquid Density | No information available |
| Bulk density | No information available |

10. Stability and reactivity

| | |
|---|--|
| Reactivity | None under normal use conditions. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong oxidizing agents. Acids. Bases. Moisture. |
| Hazardous decomposition products | Nitrogen oxides (NOx). Ammonia. |

11. Toxicological information**Information on likely routes of exposure****Product Information**

| | |
|---------------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. |
| Eye contact | Specific test data for the substance or mixture is not available. Contact with eyes may cause irritation. |
| Skin contact | Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes mild skin irritation. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|---|
| Symptoms | Itching. Rashes. Hives. Prolonged contact may cause redness and irritation. |
|-----------------|---|

Acute toxicity

Numerical measures of toxicity**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--|-----------------------|--------------------------|-----------------|
| Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol 9003-36-5 | > 2 g/kg (Rat) | - | - |
| Bisphenol A diglycidyl ether 1675-54-3 | = 11300 µL/kg (Rat) | = 20000 mg/kg (Rabbit) | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|--|
| Skin corrosion/irritation | Classification based on data available for ingredients. May cause skin irritation. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitization | Classification based on data available for ingredients. May cause sensitization by skin contact. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |

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

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---|-------|---------|-----|------|
| Bisphenol A diglycidyl ether 1675-54-3 | - | Group 3 | - | - |

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

Group 3 - Not Classifiable as to Carcinogenicity in Humans

| | |
|---------------------------------|---------------------------|
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information

| | |
|--------------------------------------|--|
| Ecotoxicity | Harmful to aquatic life with long lasting effects. |
| Persistence and degradability | No information available. |
| Bioaccumulation | There is no data for this product. |
| Other adverse effects | No information available. |

13. Disposal considerations**Waste treatment methods**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

IATA
ERG Code Not regulated

IMDG Not regulated

15. Regulatory information

International Inventories

TSCA Contact supplier for inventory compliance status.

| Chemical name | CAS No | US TSCA Inventory listing | US TSCA inactive/active designation |
|---|------------|---------------------------|-------------------------------------|
| Aluminum nitride (AlN) | 24304-00-5 | Present | Active |
| 1,2-Propanediol diacetate | 623-84-7 | Present | Active |
| Triglycidyl p-aminophenol | 5026-74-4 | Present | Active |
| Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol | 9003-36-5 | Present | Active |
| Bisphenol A diglycidyl ether | 1675-54-3 | Present | Active |
| Organofunctional polysiloxane | - | | |
| 1,3,5-Triazine-2,4-diamine, 6-[2-(2-methyl-1H-imidazol-1-yl)ethyl]- | 38668-46-1 | Present | Active |
| Glycidoxypropyltrimethoxysilane | 2530-83-8 | Present | Active |
| Poly(dimethylsiloxane) | 63148-62-9 | Present | Active |
| Silica gel | 63231-67-4 | Present | Active |
| Ethanol | 64-17-5 | Present | Active |

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

Legend:

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (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.

US State Regulations

California Proposition 65

Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage. This product contains the following Proposition 65 chemicals:

| Chemical name | California Proposition 65 |
|-------------------|-----------------------------|
| Ethanol - 64-17-5 | Carcinogen Developmental |

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|--------------------------|------------|---------------|--------------|
| Silica gel 63231-67-4 | - | X | X |
| Ethanol 64-17-5 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|--------------------|-------------------------|-----------------------|---------------------------|---|
| <u>NFPA</u> | Health hazards 2 | Flammability 2 | Instability 0 | Physical and chemical properties - |
| <u>HMIS</u> | Health hazards 2 | Flammability 2 | Physical hazards 0 | Personal protection X |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Issuing Date 10-Apr-2020

Revision Date 14-Dec-2022

Revision Note Updated Contact Information

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet