

Safety Data Sheet

HTK-002-U1

Version : V2.0.0.1

Report No. : A2230215145102001R1

Creation Date : 2023/05/12

Revision Date : 2023/05/12

*Prepared according to EU regulation No. 2020/878

1 Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product Name	HTK-002-U1
CAS No.	Not applicable
EC No.	Not applicable
Common Name/Trade Name	THERMAL GREASE
Molecular Formula	Not applicable
REACH Registration Number	-
UFI	No information available

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

Relevant identified uses	Thermal grease.
Uses advised against	None.

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	Cooler Master Technology Inc.
Address of the company	7F., No. 398, Xinhu 1st Rd., Neihu Dist., Taipei City 114065, Taiwan(R.O.C.)
Post code	-
Telephone number	18823648063
Fax number	-
E-mail address	Alisa_Lu@coolermaster.com.cn
Supplier	SHENZHEN ANSWER ELECTRONIC CO.,LTD
Supplier address	3/F,JinYu City Industrial Park,XueXiang Village,Buji Town Longang AREA SHENZHEN CHINA
Supplier Telephone number	0755-84193748
Supplier Fax number	0755-84194749

1.4 Emergency telephone number

Emergency telephone number	18823648063
Opening hours	24h

2 Hazards identification**2.1 CLP classification according to Regulation (EC) No. 1272/2008**

Hazardous To The Aquatic Environment – Short-Term (Acute) Hazard	Category 1
Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard	Category 1

2.2 Label elements

Hazard pictograms	
Signal word	Warning

2.3 Hazard statements

H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

2.4 Precautionary statements

◆ Prevention

P273	Avoid release to the environment.
-------------	-----------------------------------

◆ Response

P391	Collect spillage.
-------------	-------------------

◆ Storage

Storage	Not applicable
----------------	----------------

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.
-------------	--

2.5 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Zinc oxide	Not applicable
Poly(dimethylsiloxane)	Not available
Silver oxide	Not available

◆ Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
Zinc oxide	Not available
Poly(dimethylsiloxane)	Not available

Silver oxide	Not available
--------------	---------------

◆ Other

Not applicable.

3 Composition/information on ingredients

3.1 Substance/mixture

Mixture

Component	Weight % content (or range)	Classification according to Regulation(EC) No. 1272/2008 [CLP]	Specific Conc. Limits, M-factors
Zinc oxide CAS : 1314-13-2 EC : 215-222-5 Index No. : 030-013-00-7	77.6	Hazardous To The Aquatic Environment – Short-Term (Acute) Hazard , Category 1 , H400 ; Hazardous To The Aquatic Environment – Long-Term (Chronic) Hazard , Category 1 , H410	-
Poly(dimethylsiloxane) CAS : 63148-62-9 EC : 613-156-5 Index No. : -	22.3	Not Classified	-
Silver oxide CAS : 11113-88-5 EC : 628-958-0 Index No. : -	0.1	Oxidizing Solids , Category 2 , H272 ; Skin Corrosion/Irritation , Category 2 , H315 ; Eye Damage/Irritation ,Category 2 ,H319 ;Specific Target Organ Toxicity (Single Exposure) , Category 3(Respiratory irritation) , H335	-

4 First-aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Rinse and then wash skin with water and soap.
Ingestion	Rinse mouth. Refer for medical attention.
Inhalation	Fresh air, rest. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
---	--

4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry chemical, carbon dioxide or alcohol-resistant foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter or spread fire.

5.2 Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	Not considered a significant fire risk, however containers may burn.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Use personal protective equipment,do not breathe gas/mist/vapour/spray.
2	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
3	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by bunding.
4	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
5	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.

6.4 Reference to other sections

	Personal Protective Equipment advice is contained in Section 8 of the SDS.
	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

◆ Measures to prevent fire

1 Keep away from heat/sparks/open flames/ hot surfaces.

◆ Measures to prevent aerosol and dust generation

1 Not applicable.

◆ Advice on general occupational hygiene

1 Wash hands and face after using of the substances.

2 Replace the contaminated clothing immediately.

| 7.2 Conditions for safe storage, including any incompatibilities

1 Keep containers tightly closed.

2 Keep containers in a dry, cool and well-ventilated place.

3 Keep away from heat/sparks/open flames/hot surfaces.

4 Store away from incompatible materials and foodstuff containers.

| 7.3 Specific end use(s)

1 In addition to use mentioned in the first parts, unforeseen other specific end uses.

8 Exposure controls/personal protection

| 8.1 Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
Zinc oxide	USA - OSHA		15		
	Spain		10		
	New Zealand		10		10
	France		10		
	Canada - Ontario		2		10
	Australia		10		
	USA-ACGIH		2		10

◆ Biological limit values

Biological limit values No relevant regulations

◆ Monitoring methods

1 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

2 GBZ/T 300 series standard Determination of toxic substances in workplace air.

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Zinc oxide	Inhalation	No data available	No data available	No data available	5 mg/m ³
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Poly(dimethylsiloxane)	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available
Silver oxide	Inhalation	No data available	No data available	No data available	No data available
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC)	No information available
---	--------------------------

8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Set up emergency exit and necessary risk-elimination area.
4	Handle in accordance with good industrial hygiene and safety practice.

8.2.2 Personal protection equipment

General requirement	
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear appropriate chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear appropriate chemical protective clothing and chemical resistant shoes.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid (colloid)
Colour	White
Odor	Odorless
Odor threshold	No information available
pH	No information available

Melting point/freezing point(°C)	No information available
Initial boiling point and boiling range(°C)	>35
Flash point(Closed cup, °C)	No information available
Evaporation rate	No information available
Flammability	Not combustible
Upper/lower explosive limits[%(v/v)]	Upper limit : No information available ; Lower limit : No information available
Vapor pressure	No information available
Vapor density(Air = 1)	No information available
Relative density(Water=1)	No information available
Solubility	No information available
n-octanol/water partition coefficient	No information available
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	No information available
Kinematic viscosity(mm²/s)	No information available
Explosive properties	Non explosive
Oxidizing properties	Not oxidizing
Particle characteristics	No information available

9.2 Other information

Other information	Not Available
--------------------------	---------------

10 Stability and reactivity

| Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	Reacts with active metals and poses an explosive potential or fire.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	Active metal, alcohols, aldehydes, carbon disulfide, carbon, sulfur, phosphorus, boron, reducing agents, metallic acetylenes and metallic carbonates.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

|11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

HTK-002-U1	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met

Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Reproductive toxicity(additional)	Based on available data, the classification criteria are not met

| Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
Zinc oxide	7950mg/kg(Mouse)	No information available	No information available

| Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Zinc oxide	Not Listed	Not Listed
Poly(dimethylsiloxane)	Not Listed	Not Listed
Silver oxide	Not Listed	Not Listed

|11.2 Information on other hazards

| 11.2.1 Endocrine disrupting properties

Component	Endocrine disrupting properties
Zinc oxide	Not available
Poly(dimethylsiloxane)	Not available
Silver oxide	Not available

| 11.2.2 Other Information

Other Information	See Section 11.1
--------------------------	------------------

12 Ecological information

|12.1 Toxicity

| Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
Zinc oxide	LC ₅₀ : 1120mg/L (96h)(Fish)	No information available	No information available

| Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
---------------------------------	--------------------------

| 12.2 Persistence and degradability

Persistence and degradability	No information available
--------------------------------------	--------------------------

| 12.3 Bioaccumulative potential

Component	Bioaccumulative potential	Comments
Zinc oxide	Low	BCF=217

| 12.4 Mobility in soil

Mobility in soil	No information available
-------------------------	--------------------------

| 12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Zinc oxide	Not applicable
Poly(dimethylsiloxane)	Not available
Silver oxide	Not available

| 12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
Zinc oxide	Not available
Poly(dimethylsiloxane)	Not available
Silver oxide	Not available

13 Disposal considerations

| 13.1 Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

| Label

Transporting Label	
---------------------------	--

| IMDG-CODE

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III
Marine pollutant (Yes or no)	Yes

| ICAO/IATA-DGR

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,LIQUID, N.O.S.
Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III

| UN-ADR

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,LIQUID, N.O.S.
Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III

|14.7 Maritime transport in bulk according to IMO instruments

- ◆ Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available
--	---------------

- ◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available
--	---------------

- ◆ Transport in bulk in accordance with the IGC Code

	Not Available
--	---------------

15 Regulatory information

|15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

| International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIICS	ENCS
Zinc oxide	√	√	√	√	√	√	√	√	√
Poly(dimethylsiloxane)	×	√	√	√	√	√	√	√	√
Silver oxide	×	×	×	×	×	×	×	×	√

[EC inventory]	European Inventory of Existing Commercial Chemical Substances
[TSCA]	United States Toxic Substances Control Act Inventory
[DSL]	Canadian Domestic Substances List
[IECSC]	China Inventory of Existing Chemical Substances
[NZIoC]	New Zealand Inventory of Chemicals
[PICCS]	Philippines Inventory of Chemicals and Chemical Substances

[KECI]	Korea Existing Chemicals Inventory
[AIICS]	Australian. Inventory of Industrial Chemical (AIICS)
[ENCS]	Japan Inventory of Existing & New Chemical Substances

| European chemical inventory

Component	A	B	C	D	E	F	G
Zinc oxide	×	×	×	√	√	√	×
Poly(dimethylsiloxane)	×	×	×	√	×	×	×
Silver oxide	×	×	×	×	×	×	×

- [A] Candidate list of Substances of Very High Concern for authorization under EU REACH regulation
 [B] Substances requiring authorisation under EU REACH regulation
 [C] Substances restricted under EU REACH
 [D] Pre-registered substances under EU REACH
 [E] Registered substances under EU REACH
 [F] Substance Evaluation – CoRAP under EU REACH
 [G] List of priority substances under EU water policy (Directive 2455/2001/EC)

Note:

- “√” Indicates that the substance included in the regulations.
 ”
 “×” No data or not included in the regulations.
 ”

16 Other information

| Information on revision

Creation Date	2023/05/12
Revision Date	2023/05/12
Reason for revision	-

| Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.chemportal.org/chemportal/substancesearch/index.action>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

| Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association

NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{ow}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

| Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

| Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. The information of section 3 and section 9 is provided by the company listed in section 1. Other information is from authoritative database and expert assessment.

Note : This SDS revised "Company Name shown on Report / Address", added "Supplier / Supplier address / Supplier Telephone number / Supplier Fax number" based on the original report of No. A2230215145102001. This SDS displaces the original one which was invalid since the date of this testing report released.

1. This file is considered invalidated without the Special Seal for Inspection of CTI.
2. This file shall not be altered, increased or deleted.
3. Without written approval of CTI, this file shall not be copied partly or published as advertisement.
4. The file and the data must not be used in legal affairs, according to the agreement with CTI and the Applicant.

End of File