

SAFETY DATA SHEET

Section 1: Identification

Product identifier used on the label;

Product name: Air-activated heating packs of various styles
(HotHands warmers, Mr. Heater hand warmers, body warmers, foot warmers, insole foot warmers, toe warmers, pocket warmers, super warmers, seat warmers, clothing adhesive warmers, biodegradable warmers, shipping warmers, and food warmers.)

Other means of identification;

Heating pad wrapped in plastic film, Air-activated disposable warmers

Recommended use of the chemical and restrictions on use;

Recommended use: Air-Activated Disposable Warmer
Restrictions on use: No Applicable Information Available

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party;

Name: Shandong Zenuochem Technology Co.
Department in Charge: LtdHaier Road, No. 3-1005, 182, No.5,
Address: Building 5199, Bonded Area, Laoshan
Telephone number: District, Quingdao, Shandon, China
Fax number: (266100)
e-mail address:

(86 532) 81700724

Emergency phone number

(86 532) 81700734

Section 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;**Physical Hazards**

Not classified

Health Hazards

Not classified

Environmental Hazards

Not classified

Other Hazards

No Applicable Information Available

Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200;

Symbol(s) No Applicable Information Available

Signal word	No Applicable Information Available
Hazard Statement(s)	No Applicable Information Available
Precautionary Statement(s)	No Applicable Information Available

Description of any hazards not otherwise classified;

General caution: powdered materials may ignite, under certain conditions.

May generate heat if the contents removed from the bag.

Ingredient with unknown acute toxicity in the mixture

No Applicable Information Available

Section 3: Composition/information on ingredients

Compositions (contents of the product)*

Chemical name	CAS No.	Concentration/concentration ranges (wt %)
Iron powder	7439-89-6	50-60
Activated charcoal	7440-44-0	5-10
Vermiculite	1318-00-9	5-10
Water-absorbent resin	9003-04-7	1-5
Sodium chloride	7647-14-5	1-5
Water	7732-18-5	30-40

*This product consists of the non-woven fabric and the heating element.

Contents of the heating element are described in this table.

Exact concentrations have been withheld as a trade secret.

Section 4: First-aid measures

Necessary first-aid measures by relevant routes of exposure;

IF INHALED	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms continue, call a doctor/physician.
IF ON SKIN	Rinse with plenty of water and soap. If symptoms continue, call a doctor/physician.
IF IN EYES	Immediately rinse cautiously with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms continue, call a doctor/physician.
IF SWALLOWED	Rinse mouth. Immediately get medical advice/attention.

Most important symptoms/effects, acute and delayed;

No Applicable Information Available

Indication of immediate medical attention and special treatment needed, if necessary;

No Applicable Information Available

Section 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media;

Suitable extinguishing media:

Use dry sand, dry chemical powder, fire foam or carbon dioxide.

Unsuitable extinguishing media

Do not use water to extinguish fire.

Specific hazards arising from the chemical;

General caution: powdered materials may ignite, under certain conditions.

Special protective equipment and precautions for fire-fighters;

Cut off any ignition sources and extinguish with an appropriate agent.

Take action upwind from the source.

Section 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures;

Avoid release into the environment because product may cause local effects.

Methods and materials for containment and cleaning up;

Sweep up materials or vacuum using a vacuum cleaner so as not to cause dust, then place material in a container of water.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent flow of material into drains, sewers, basements or closed areas.

Section 7: Handling and storage

Precautions for safe handling

Protective measures:

Do not use for other than Recommended use.

Avoid the generation of dust.

Advice on general occupational hygiene:

Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Technical measures:

Take precautionary measures against static discharge.

Incompatible materials:

Oxidizing agents

Conditions for safe storage:

Avoid storing in direct sunlight, high temperature and high humidity. Store at room temperature.

Packing material:

Use a sealed container without damage or leakage.

Section 8: Exposure controls/personal protection

Occupational Exposure Limits;

OSHA PEL-TWA	5 mg/m ³ (Respirable fraction)
	15 mg/m ³ (Total dust)
ACGIH TLV (2014)	3 mg/m ³ (Insoluble respirable particles not other specified)
	10 mg/m ³ (Insoluble inhalable particles not other specified)

Appropriate engineering controls;

In a work place where dusts generate, ensure to use sealed instrument or local ventilation.

Individual protection measures, such as personal protective equipment;

Respiratory protection	In case of dust generation, wear appropriate protective mask or air aspirator as required.
Hand protection	If hand contact is possible, wear protective gloves.
Eye protection	Wear safety glasses or goggles if in eyes.
Skin and body protection	Wear protective clothing and apron if necessary.

Section 9: Physical and chemical properties

Appearance (physical state, color, etc.)	White sheet (contents: black)
Odor	odorless
Odor threshold	No Applicable Information Available
pH	unmeasurable
Melting point/freezing point	No Applicable Information Available
Initial boiling point and boiling range	No Applicable Information Available
Flash point	No Applicable Information Available
Evaporation rate	No Applicable Information Available
Flammability (solid, gas)	No Applicable Information Available
Upper/lower flammability or explosive limits	No Applicable Information Available
Vapor pressure	No Applicable Information Available
Vapor density	No Applicable Information Available
Relative density	No Applicable Information Available
Solubility (ies)	No Applicable Information Available
Partition coefficient: <i>n</i> -octanol/water	No Applicable Information Available
Auto-ignition temperature	No Applicable Information Available
Decomposition temperature	No Applicable Information Available
Viscosity	No Applicable Information Available

Other information

No Applicable Information Available

Section 10: Stability and reactivity

Reactivity

Stable under normal handling condition.

Chemical stability

Stable under normal handling condition.

Possibility of hazardous reactions

No hazardous reaction expected under normal handling.

Conditions to avoid

Avoid storing in direct sunlight, high temperature and high humidity.

Incompatible materials

Oxidizing agents

Hazardous decomposition products

In case of fire, toxic decomposition products may be generated.

Section 11: Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin, and eye contact);

No Applicable Information Available

Symptoms related to the physical, chemical and toxicological characteristics;

Information on product:

Acute toxicity (oral): Rat LD₅₀ > 2,000 mg/kg

Information on ingredients:

No Applicable Information Available

Delayed and immediate effects and also chronic effects from short- and long-term exposure;

No Applicable Information Available

Numerical measures of toxicity (such as acute toxicity estimates);

No Applicable Information Available

Whether the chemical is listed in the NTP Report on Carcinogens or has been found to be a potential carcinogen in the IARC Monographs, or by OSHA;

IARC: Not listed

NTP Report: Not listed

OSHA: Not listed

Section 12: Ecological information

Ecotoxicity:

Information on product: No Applicable Information Available

Information on ingredients: No Applicable Information Available

Persistence and degradability:

Information on product: No Applicable Information Available

Information on ingredients: No Applicable Information Available

Bioaccumulative potential:

Information on product: No Applicable Information Available

Information on ingredients: No Applicable Information Available

Mobility in soil:

Information on product: No Applicable Information Available

Information on ingredients: No Applicable Information Available

Other adverse effects:

No information

Section 13: Disposal considerations

Waste treatment methods

Dispose of waste in accordance with applicable local, regional and international regulations and standards.

When disposing, consult a certificated waste trader or local offices if they deal with the waste.

Used container should be recycled after cleaning or dispose of in compliance with related laws and local regulations.

Contents should be removed completely prior to disposal of empty containers.

Section 14: Transport information

UN number No Applicable Information Available**UN proper shipping name** No Applicable Information Available**Transport hazard class(es)** No Applicable Information Available**Packing group** No Applicable Information Available**Environmental hazards** No Applicable Information Available**Transport in bulk according to Annex II of MARPOL 73/78 and IBC code**

No Applicable Information Available

Special precautions for user

When transporting, avoid direct sunlight. Confirm no leakage to containers. When loading, prevent containers from falling, dropping or damaging. Take preventive measures of collapse.

Section 15: Regulatory information

OSHA:	Not hazardous chemical
TSCA inventory:	All ingredients except vermiculite in this product are listed on the TSCA Inventory.
TSCA SNUR:	Not listed
SARA Title III:	Section 302 (Extremely Hazardous Substances): Not listed Section 304 (Hazardous Substances): Not listed Section 313 (TRI Chemicals): Not listed
Clean Air Act:	This product does not contain any substances regulated as hazardous air pollutants under Section 112 of the Clean Air Act.
Clean Water Act:	This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act.

Section 16: Other information, including date of preparation or last revision

Update history:

Date of issue: April 10, 2015

References:

Information of KOBAYASHI Pharmaceutical Co., Ltd.

ACGIH, American Conference of Governmental Industrial Hygienists (2014) TLVs and BEIs.

[Disclaimer]

This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.