

1. Product and company identification

Product identifier

Trade name: Thermo Paste

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

General use: Heat transfer agent without Silicone

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care

Street/POB-No.: 3820 W. Great Lakes Drive

Postal Code, city: Salt Lake City, UT 84120
USA

WWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

Department responsible for information:

Quality Department,

Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),

Email: USRegulatory@ottobock.com

Additional information:

Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany

Emergency phone number

CHEMTREC, Telephone: +1 (800) 424-9300

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: solid

Form: pasty

Color: white

Odor: No data available

Classification: Aquatic toxicity - acute - Category 1 (M-factor = 1). Aquatic toxicity - chronic - Category 1 (M-factor = 1).

Hazard symbols:



Signal word:

Warning

Hazard statements: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Avoid release to the environment.
Collect spillage.
Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Special danger of slipping by leaking/spilling product.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Mixture on the basis of Zinc oxide and additives

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 1314-13-2	Zinc oxide	60 - 100 %	Aquatic toxicity - acute - Category 1 (M-factor = 1). Aquatic toxicity - chronic - Category 1 (M-factor = 1).
CAS 122-39-4	Diphenylamine	0 - 1 %	Acute Toxicity - oral - Category 3. Acute Toxicity - dermal - Category 3. Acute Toxicity - inhalative - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - acute - Category 1. Aquatic toxicity - chronic - Category 1.

4. First aid measures

In case of inhalation: Move victim to fresh air. Make sure he/she is warm and comfortable. Seek medical attention.

Following skin contact: Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with soap and plenty of water.
In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After swallowing: Rinse mouth with water. Do not induce vomiting.
Never give an unconscious person anything through the mouth.
Seek medical attention.

Most important symptoms/effects, acute and delayed

In case of ingestion: stomachache, vomiting

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

446 °F (c.c.)

Auto-ignition temperature: > 797 °F

Suitable extinguishing media:

foam, dry chemical powder, carbon dioxide.

Specific hazards arising from the chemical

Hazardous vapors may form during fires. In case of fire may be liberated: Carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Do not allow water used to extinguish fire to enter drains, ground or waterways.

6. Accidental release measures

Personal precautions:

Provide adequate ventilation. Wear appropriate protective equipment.

Avoid contact with skin and eyes.

Environmental precautions:

Do not allow to penetrate into soil, waterbodies or drains.

Methods for clean-up:

Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder.

Store in special closed containers and dispose of according to ordinance. Final cleaning.

Recommended cleansing agent: Water

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling: When not in use, keep containers tightly closed.

Provide adequate ventilation, and local exhaust as needed.

Avoid contact with skin, eyes, and clothing. Wear appropriate protective equipment.

Storage

Requirements for storerooms and containers:

Keep only in the original container in a cool, well-ventilated place away from food.

Protect from frost.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1314-13-2	Zinc oxide	USA: ACGIH: STEL	10 mg/m ³ (respirable fraction)
		USA: ACGIH: TWA	2 mg/m ³ (respirable fraction)
		USA: IDLH: TWA	500 mg/m ³
		USA: NIOSH: Ceiling	15 mg/m ³ (Dusts)
		USA: NIOSH: STEL	10 mg/m ³ (Smoke)
		USA: NIOSH: TWA	5 mg/m ³ (Dusts)
		USA: NIOSH: TWA	5 mg/m ³ (Smoke)
		USA: OSHA: TWA	15 mg/m ³ (total dust)
		USA: OSHA: TWA	5 mg/m ³ (respirable fraction or Smoke)
122-39-4	Diphenylamine	USA: ACGIH: TWA	10 mg/m ³
		USA: NIOSH: TWA	10 mg/m ³

Additional information: Zinc oxide is embedded in the product and not available as respirable dusts.

Engineering controls

Provide adequate ventilation, and local exhaust as needed.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material recommended: Butyl caoutchouc (butyl rubber).

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

General hygiene considerations:

Avoid contact with skin and eyes. Wash hands before breaks and after work.

Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.

When using do not eat, drink or smoke.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: solid

Form: pasty

Color: white

Odor:	No data available
Odor threshold:	No data available
pH:	Not applicable
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	> 482 °F
Flash point/flash point range:	446 °F (c.c.)
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	No data available
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	> 797 °F
Thermal decomposition:	No data available
Additional information:	Relative density 68 °F: 2,04

10. Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No dangerous reactions with proper and specified storage and handling
Conditions to avoid:	Keep away from heat sources, sparks and open flames. Protect from frost.
Incompatible materials:	No data available
Hazardous decomposition products:	Carbon monoxide and carbon dioxide
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.
ATEmix calculated: > 2,000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix calculated: > 2,000 mg/kg

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
ATEmix calculated (Dusts): > 5 mg/L

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Symptoms

In case of ingestion: stomachache, vomiting

General remarks

Carcinogenicity:
NTP: Not listed, IARC: Not listed, OSHA REGULATED: Not listed

12. Ecological information

Ecotoxicity

Aquatic toxicity: Very toxic to aquatic life with long lasting effects.

Mobility in soil

Substance is heavier than water and sinks.

Persistence and degradability

Further details: No data available

Additional ecological information

Volatile organic compounds (VOC):

0 % by weight

General information: Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

Product

Recommendation: Dispose of waste according to applicable legislation.

Package

Recommendation: Dispose of waste according to applicable legislation.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 3077

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)

Transport hazard class(es)

ADR/RID:

Class 9, Code: M7

IMDG:

Class 9, Subrisk -

IATA-DGR:

Class 9

Packing group

ADR/RID, IMDG, IATA-DGR:

III

Environmental hazards

Marine pollutant:

yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number:

UN3077

Proper shipping name:

UN 3077,
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (zinc oxide)

Hazard class or Division:

9

Packing Group:

III

Labels:

9

Symbols:

G

Special Provisions:

8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91,
T1, TP33

Packaging – Exceptions:

155

Packaging – Non-bulk:

213

Packaging – Bulk:

240

Quantity limitations – Passenger aircraft / rail:

No limit

Quantity limitations – Cargo only:

No limit

Vessel stowage – Location:

A



Sea transport (IMDG)

UN number:	UN 3077
Proper shipping name::	UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)
Class or division, Subsidiary risk:	Class 9, Subrisk -
Packing Group:	III
EmS:	F-A, S-F
Special Provisions:	274 335 375 966 967 969
Limited quantities:	5 kg
Excepted quantities:	E1
Package - Instructions:	P002, LP02
Package - Provisions:	PP12
IBC - Instructions:	IBC08
IBC - Provisions:	B3
Tank instructions - IMO:	-
Tank instructions - UN:	T1, BK2, BK2, BK3
Tank instructions - Provisions:	TP33
Stowage and handling:	Category A. SW23
Properties and observations:	-
Marine pollutant:	yes
Segregation group:	none

Air transport (IATA)

UN/ID number:	UN 3077
Proper shipping name::	UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)
Class or division, Subsidiary risk:	Class 9
Packing Group:	III
Hazard label:	Miscellaneous & Environmentally hazardous
Excepted Quantity Code:	E1
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y956 - Max. Net Qty/Pkg. 30 kg G
Passenger and Cargo Aircraft:	Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Cargo Aircraft only:	Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Special Provisions:	A97 A158 A179 A197 A215
Emergency Response Guide-Code (ERG):	9L

Further information

Protect from frost.

15. Regulatory information

National regulations - U.S. Federal Regulations

Zinc oxide: TSCA Inventory: listed
NIOSH Recommendations:
Occupational Health Guideline: 0675*

Diphenylamine: TSCA Inventory: listed
Clean Air Act:
CAA SOCM Chemical: yes
Other Environmental Laws:
RCRA Groundwater Monitoring: Methods 8270 / PQL 10
NIOSH Recommendations:
Occupational Health Guideline: 0240

National regulations - U.S. State Regulations

No data available

National regulations - Canada

Zinc oxide: DSL: listed
Diphenylamine: DSL: listed

National regulations - Great Britain

Hazchem-Code: 2Z

16. Other information

Text for labeling:

Hazard rating systems:



Contains 60 - 100 % Zinc oxide, 0 - 1 % Diphenylamine.

NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Abbreviations and acronyms:

Acute Toxicity: Acute toxicity
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 Aquatic toxicity - acute: Hazardous to the aquatic environment - acute
 Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic
 AS/NZS: Australian Standards/New Zealand Standards
 ATEMix: Acute Toxicity Estimate of mixture
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 EC: European Community
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 M-factor: Multiplication factor
 OEL: Occupational Exposure Limit Value
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 STOT RE: Specific target organ toxicity - repeated exposure
 TLV: Threshold Limit Value
 TRGS: Technical Rules for Hazardous Substances
 UN: United Nations
 vPvB: Very persistent and very bioaccumulative
 WEL: Workplace Exposure Limit

Reason of change: Changes in section 14: IMDG 2025

Date of first version: 8/17/2016

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.