

THERMOTHAL® N SAFETY INFORMATION SHEET

数据表

This Safety Information Sheet provides essential health, safety, and environmental information for Thermothal® N, a nickel-based alloy used primarily in thermocouple applications for precise and stable temperature measurement. Thermothal® N is typically used as the positive leg in Type N thermocouples, paired with Thermothal® Ni, and is valued for its excellent thermoelectric stability and resistance to oxidation in high-temperature environments. The information herein is intended to assist users in the safe handling, storage, processing, and disposal of Thermothal® N in various industrial and manufacturing environments. While Thermothal® N is considered stable under normal conditions, appropriate precautions should always be taken to minimize risks during its use. This document is not a substitute for regulatory compliance or a Material Datasheet, but complements it by offering additional safety guidance specific to this material.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Trade name: Thermothal N

Product type: Thermo element

Manufacturer/Supplier:
Kanthal AB
Box 502
734 27 Hallstahammar
+46 220-210 00

E-mail: ehs@kanthal.com

Emergency telephone: Use your local emergency number

HAZARDS IDENTIFICATION

H-value:

H351 Suspected of causing cancer.

H317 May cause an allergic skin reaction.

H372 Causes damage to organs through prolonged or repeated exposure.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H413 May cause long lasting harmful effects to aquatic life.

Injurious to health properties:

Nickel limited evidence of a carcinogenic effect.

Nickel may cause sensitization by skin contact.
Cobalt may cause sensitization by inhalation and skin contact

COMPOSITION/INFORMATION ON INGREDIENTS

Compounds	EINECS-no.	CAS-no.	Content %	H-value
Nickel	231-111-4	7440-02-0	Balance	H351 H317 H372
Manganese	231-105-1	7439-96-5	Max 3	
Aluminum	231-072-3	7429-90-5	Max 2	
Cobalt	231-158-0	7440-48-4	Max 1	H317 H334 H413

FIRST AID MEASURES

Inhalation: Move to fresh air.

Skin contact: Wash with soap and water.

Eye contact: Rinse immediately with water for several minutes, with eyelids held open.

Ingestion: Not a normal route of exposure.

FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use suitable extinguishing media for surrounding materials and type of fire.

Extinguishing media which shall not be used for safety reasons: None known.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: None known.

Special protective equipment for firefighters: Wear fully protective impervious suit.

ACCIDENTAL RELEASE MEASURES

Personal precautions: Use protective clothing and gloves. Also see p.8

Environmental precautions: -

Methods for cleaning up: -

HANDLING AND STORAGE

Handling: Follow generally accepted industrial practice for good hygiene.

Storage: Keep dry.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

Hygiene standards and exposure limits may differ from country to country. Check those currently applying in your country and comply with regulations. Examples of exposure limit applying Sweden are given below:

Compound	Exposure limit	Type of value
Nickel	0,5 mg/m ³	NGV (Total)
Aluminum	2 mg/m ³	NGV (Respirable)
	5 mg/m ³	NGV (Total)
Manganese	0,1 mg/m ³	NGV (Respirable)
	0,2 mg/m ³	NGV (Total)
Cobalt	0,05 mg/m ³	NGV (Total)

NGV = Level Limit Value, sanitary limit value for exposure during one working day.

Exposure controls

Preventive action: Good general ventilation is recommended.

Respiratory protection: Use when necessary.

Hand protection: Protective gloves, avoid skin contact.

Eye protection: Wear safety glasses when tooling.

Skin protection: Wear suitable protective clothing and protective shoes.

PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid, metal

Colour: Metallic

Odour: Odourless

Density: $\approx 8,6 \text{ g/cm}^3$

Melting point (approx): $\approx 1,400^\circ\text{C}$ ($\approx 2,550^\circ\text{F}$)

Water solubility: Insoluble

STABILITY AND REACTIVITY

Conditions to avoid: -

Materials to avoid: -

Hazardous decomposition products: -

TOXICOLOGICAL INFORMATION

Inhalation: Dust may cause sensitive persons problem with respiration.

Skin contact: May cause contact eczema and allergy when repeatedly skin contact.

Eye contact: Product dust may cause temporary mechanical eye irritation.

Ingestion: Not a normal route of exposure.

Nickel

Nickel is the most commonly occurring contact allergen. According to surveys from the USA, Italy, Denmark, Finland and Sweden, 8-22 % of women and 0.3-3 % of men develop hypersensitivity to nickel (National Chemicals Inspectorate, Sweden, 1995). The main method of exposure is contact with metallic nickel and/or nickel alloys.

Exposure to nickel has been linked to a risk of lung cancer and nasal cancer, but it has not been possible to identify the form in which nickel is carcinogenic.

ECOLOGICAL INFORMATION

No data available.

DISPOSAL CONSIDERATIONS

Disposal in accordance with all applicable local and national regulations.

TRANSPORT INFORMATION

Road transport (ADR): Not classified as dangerous in the meanint of transport regulations.

REGULATORY INFORMATION

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P-value:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308/ P313 If exposed or concerned: Get medical advice/attention.

OTHER INFORMATION

Information in this Safety Information Sheet is based on the form the product is released on the market.

List of relevant H phrases:

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Declaration

The information given in this safety information sheet is based on the present level of our knowledge and experience. The data sheet describes the products with respect to safety requirements. The data given is not intended as a confirmation of product properties and does not constitute a legal contractual relationship, nor should it be used as the basis for ordering these products.

Revision:

Revised in accordance with CLP regulation. EC 1272/2008.