KANTHAL®

NIKROTHAL®
SAFETY INFORMATION SHEET

数据表

This Safety Information Sheet provides essential health, safety, and environmental information for Nikrothal®, a family of nickel-chromium (NiCr) alloys designed for use in electrical resistance and high-temperature heating applications. Nikrothal® alloys are known for their high resistivity, excellent oxidation resistance, and long service life under thermal cycling conditions. They are widely used in both industrial furnaces and domestic appliances. The information herein is intended to assist users in the safe handling, storage, processing, and disposal of Nikrothal® materials in various industrial and manufacturing environments. While Nikrothal® alloys are considered stable under normal conditions, appropriate precautions should always be taken to minimize risks during their use. This document is not a substitute for regulatory compliance or a Material Datasheet, but complements it by offering additional safety guidance specific to these materials.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Trade name: Nikrothal® N20, N30, N40, N40B, N42, N60, N60T, N70, N80, N80S, 35/19CB, 80/20CB, NRX600, NRX601, NXT, N450C

Product type: Heat Resistant Alloy

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 Warning; Suspected of causing cancer.
H317 Warning; May cause an allergic skin reaction.
H372 Danger; Causes damage to organs through prolonged or repeated exposure.

Injurious to health properties:
Nickel limited evidence of a carcinogenic effect.
Nickel may cause sensitization by skin contact.

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Chromium may cause contact eczema.

COMPOSITION/INFORMATION ON INGREDIENTS

Compounds	EINECS-no.	CAS-no.	Content %	H-value
Nickel	231-111-4	7440-02-0	19-80	H351 H317 H372
Chromium	231-157-5	7440-47-3	14-32	
Aluminum	231-072-3	7429-90-5	Max 4	
Manganese	231-105-1	7439-96-5	Max 3	
Iron	231-096-4	7439-89-6	Balance	

FIRS 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/m3	NGV (Total)
Chromium	0,5 mg/m3	NGV (Total)
Aluminum	2 mg/m3 5 mg/m3	NGV (Respirable) NGV (Total)
Manganese	0,1 mg/m3 0,2 mg/m3	NGV (Respirable) 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: ≈ 8 g/cm3

Melting point (approx): ≈1,400°C (≈ 2,550°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.

Chromium

Prolonged contact with chromium compounds or with materials containing chromium can cause allergic reactions. Based on research, it is believed that this only occurs with contact with chromium (VI). Allergic skin reactions are particularly common in work places where work involves the handling of chromates, dichromates and chromic acid fumes, but chromium allergies have also been observed in housewives, cement workers, furriers and joiners (National Chemicals Inspectorate, Sweden, 1995). One type of contact eczema, 'cement eczema', is thought to be caused by chromium (VI) in cement.

People who have developed chromium allergies also tend to be hypersensitive to other metals, mainly nickel and cobalt (National Chemicals Inspectorate, Sweden, 1995).

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 meaning of transport regulations.

REGULATORY INFORMATION

H-value:
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H317 Warning; May cause an allergic skin reaction.
H372 Danger; Causes damage to organs through prolonged or repeated exposure.

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:
H351 Warning; Suspected of causing cancer.
H317 Warning; May cause an allergic skin reaction.
H372 Danger; Causes damage to organs through prolonged or repeated exposure.

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.

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