



# SAFETY INFORMATION SHEET

**Kanthal**

**Revision:** 01 Jul 2016  
**Replacing:** 30 Sep 2010  
**Issue:** 8 Page. 1(5)

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Trade name:** Kanthal A1, A, AE, AF, AMR, AX2, D, DT, LT  
**Product type:** Resistance Heating Alloy  
**Manufacturer/Supplier:** Sandvik Heating Technology AB  
Box 502  
734 27 Hallstahammar  
0220-210 00  
**E-mail:** erik.carlsen@sandvik.com  
**Emergency telephone:** 112

## 2. HAZARDS IDENTIFICATION

**Symbol:** T Toxic  
**R-value:** R40 Limited evidence of a carcinogenic effect  
R43 May cause sensitization by skin contact  
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation  
**Injurious to health properties:** Nickel limited evidence of a carcinogenic effect.  
Nickel may cause sensitization by skincontact.  
Chromium may cause contact eczema.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Compounds	EINECS-no.	CAS-no	Content %	Symbol/R-value
Nickel	231-111-4	7440-02-0	Max 1	Canc 3 T R40 R43 R48/23
Chromium	231-157-5	7440-47-3	9-24	
Aluminium	231-072-3	7429-90-5	Max 7	
Iron	231-096-4	7439-89-6	Balance	

## 4. 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.

## 5. 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:**



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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.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Use protective clothing and gloves. Also see p.8

**Environmental precautions:**

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**Methods for cleaning up:**

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## 7. HANDLING AND STORAGE

**Handling:**

Follow generally accepted industrial practice for good hygiene.

**Storage:**

Keep dry.

## 8. 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:

<u>Compound</u>	<u>Exposure limit</u>	<u>Type of value</u>
Nickel	0,5 mg/m <sup>3</sup>	NGV (Total)
Chromium	0,5 mg/m <sup>3</sup>	NGV (Total)
Aluminium	2 mg/m <sup>3</sup>	NGV (Respirable)
	5 mg/m <sup>3</sup>	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.

**Kanthal****Revision:** 01 Jul 2016  
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**Issue:** 8 **Page:** 3(5)**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Form:** Solid, metal  
**Colour:** Metallic  
**Odour:** Odourless

**Density:** ~ 7g/cm<sup>3</sup>  
**Melting point (approx):** ~1400-1430°C, ~2550-2610°F  
**Water solubility:** Insoluble

**10. STABILITY AND REACTIVITY****Conditions to avoid:**

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**Materials to avoid:**

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**Hazardous decomposition products:**

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**11. 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.

The EU has classified metallic nickel as Category 3 carcinogens with an R40 risk phrase – Limited evidence of a carcinogenic effect.

**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.



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

### 12. ECOLOGICAL INFORMATION

No data available.

### 13. DISPOSAL CONSIDERATIONS

Disposal in accordance with all applicable local and national regulations.

### 14. TRANSPORT INFORMATION

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

### 15. REGULATORY INFORMATION

**Symbol:** T Toxic

**R-value:** R40 Limited evidence of a carcinogenic effect.  
R43 May cause sensitization by skin contact.  
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation

**S-value:** S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
S 45 In case of accident or if you feel unwell, seek medical advice immediately. Show the label where possible.

### 16. OTHER INFORMATION

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

**List of relevant R phrases:**

R40 Limited evidence of a carcinogenic effect.  
R43 May cause sensitization by skin contact.  
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation

**Reference:**

Kemikalieinspektionen (1995) Hazard Assessments - Chemical Substances Selected in the Swedish Sunset Project. Supplement to KemI Report 13/94. KemI Report No 12/95.

Waltersson, Eva (1999) Environment research team. Chromium, Nickel, Molybdenum. In village and environment. A collection of facts of flow, quantities and effects in Sweden.

**Revision:**

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



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