

# SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

Date Issued : 3/21/2012  
 SDS No : M-1000-030  
 Date Revised : 3/10/2015  
 Revision No : 3

## Nickel metal pieces

### SECTION 1 : Identification of the substance/preparation and of the company/undertaking

#### 1.1. Product identifier

**Product name** : Nickel metal pieces

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses** : Physical vapor deposition of thin films

#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

Kurt J Lesker Company  
 United States  
 1925 Route 51  
 Jefferson Hills, PA 15025

**Service Number** : 412-387-9200

**E-Mail** : msds@lesker.com

Kurt J Lesker Company LTD  
 United Kingdom  
 15-16 Burgess Road  
 Hastings, East Sussex, TN35 4NR  
 England

**Customer Service** : +44 (0) 1424 458100

#### 1.4. Emergency telephone number

24-Hour Emergency Response provided by  
 3E Global Incident Response Hotline

When calling, refer to Kurt J Lesker Company  
 Global Response Access Code: 333594

North America [USA, Canada, Mexico]: 1-866-519-4752

Mainland China: (+) -86- 4001 2001 74

Europe: {+}-1-760-476-3961

Asia Pacific: {+}-1-760-476-3960

Middle East & Africa: {+}-1-760-476-3959

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Directive 67/548/EEC

**Danger symbols** : T

**R phrases** : R40,R48/23,R43

##### Classification according to Regulation (EC) No 1272/2008 [CLP]

**Health** : Target Organ Toxicity (Repeated exposure), Category 1  
 Skin Sensitization, Category 1  
 Carcinogenicity, Category 2

#### 2.2. Label elements

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### Classification according to Directive 67/548/EEC



Hazard pictogram(s) : T



Toxic

**R&S statement(s)** : R40: Limited evidence of a carcinogenic effect.  
 R48/23: Toxic : danger of serious damage to health by prolonged exposure through inhalation.  
 R43: May cause sensitisation by skin contact.  
 S2: Keep out of the reach of children.  
 S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.  
 S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictogram(s) :    
 Health hazard      Exclamation mark

**Hazard statement(s)** : H372: Causes damage to organs through prolonged or repeated exposure .  
 H351: Suspected of causing cancer .  
 H317: May cause an allergic skin reaction.

### Precautionary statement(s)

**Prevention** : P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P314: Get medical advice/attention if you feel unwell.

### 2.3. Other hazards

**Immediate concerns** : Negligible fire or explosion hazard in bulk form. Powdered material may form explosive dust-air mixtures.

**Physical hazards** : This substance is not considered hazardous in the form supplied. Dusts at sufficient concentrations can form explosive mixtures with air.

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Chemical Name	CAS	EINECS No.	Wt.%
Nickel	7440-02-0	231-111-4	100

### 3.2. Mixtures

Not Applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- Following eyes** : Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.
- Following skin** : Wash with soap and water. Get medical attention if irritation develops or persists.
- Following ingestion** : Rinse mouth. Get medical advice/attention.
- Following inhalation** : Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

#### 4.3. Indication of any immediate medical attention and special treatment needed

### SECTION 5: Fire fighting measures

#### 5.1. Extinguishing media

- Extinguishing media** : Use a Class D dry powder extinguisher, dolomite, dry sand, graphite, or soda ash.

#### 5.2. Special hazards arising from the substance or mixture

- Explosion hazards** : Dusts at sufficient concentrations can form explosive mixtures with air.

#### 5.3. Advice for firefighters

- Fire fighting procedures** : As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General procedures** : Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate all ignition sources if safe to do so. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use. Avoid release to the environment.

#### 6.2. Environmental precautions

- Water spill** : This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

#### 6.3. Methods and material for containment and cleaning up

- Small spill** : Clean up spills immediately, observing precautions in Protective Equipment section.
- Large spill** : Collect spilled material in appropriate container. Spill may be reportable . Consult section 15 for Reportable Quantities.

#### 6.4. Reference to other sections

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- General procedures** : To avoid risks to human health and the environment, comply with the instructions for use.
- Handling** : Keep away from heat and flame. Keep container closed when not in use. Remove contaminated clothing and wash before reuse. Wash hands before eating and wash before reuse. Wash thoroughly after handling.
- Storage** : Keep container closed when not in use. Store in a cool dry place.

#### 7.2. Conditions for safe storage, including any incompatibilities

#### 7.3. Specific end use(s)

### SECTION 8: Exposure controls / personal protection

#### 8.1. Control parameters

#### 8.2. Exposure controls

- Engineering controls** : Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- Eye/face protection** : Wear safety glasses with side shields (or goggles) and a face shield.
- Skin protection** : Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.
- Respiratory protection** : Not normally needed. If ventilation is inadequate and this material is handled at elevated temperatures or dusts/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
- Work hygienic practices** : Practice good chemical hygiene during and after use.
- Additional information** :

COMPONENT EXPOSURE LIMITS

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Component	Location, Type	Value (mg/m3)
Nickel	ACGIH TLV TWA	1.5
	OSHA OEL TWA	1
	NIOSH REL TWA	0.015
	Canada TWA	1
	Canada - British Columbia TWA	0.05
	Austria, Denmark, Norway TWA	0.05
	Germany, Sweden TWA	0.5
	Aus, Japan, NZ, Singapore TWA	1
	UK MEL	0.5

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	: Solid
<b>Colour</b>	: Silver-white
<b>Odour</b>	: None
<b>pH</b>	: NA = Not Applicable
<b>Melting temperature</b>	: 1453°C
<b>Boiling temperature</b>	: 2732°C
<b>Flash point</b>	: NA = Not Applicable
<b>Flammable limits</b>	: NA = Not Applicable
<b>Vapor pressure</b>	: Extremely low at 25C
<b>Vapor density</b>	: NA = Not Applicable
<b>Density</b>	: 8.9 at 25°C
<b>Solubility in water</b>	: Insoluble
<b>Auto-ignition temperature</b>	: NA = Not Applicable
<b>Molecular weight</b>	: 58.69

#### 9.2. Other information

<b>Percent volatile</b>	: NA = Not Applicable
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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**Stable** : Yes

### 10.2. Chemical stability

### 10.3. Possibility of hazardous reactions

**Hazardous decomposition** : No

### 10.4. Conditions to avoid

### 10.5. Incompatible materials

**Incompatible materials** : Strong acids, Oxidizing materials, Aluminum, Methanol, Selenium, Ammonium Nitrate, Sulphur compounds.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** : Toxic metal fumes

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute

**Eyes** : May cause mild transient irritation but there is no evidence of long term harmful effects from available information.

**Dermal LD<sub>50</sub>** : Not Available

**Skin absorption** : Not Available

**Oral LD<sub>50</sub>** : Not Available

**Inhalation LC<sub>50</sub>** : Not Available

**Sensitisation** : May cause skin sensitization.

**Mutagenicity** : Not Available

**Reproductive effect** : Not Available

**Target organs** : Lungs, Respiratory tract

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Aquatic toxicity (acute)

**96-hour LC<sub>50</sub>** : .06 mg/L (Oncorhynchus mykiss)

**48-hour EC<sub>50</sub>** : 1 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

**Persistence and degradability** : Not Available

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** : Not Available

### 12.4. Mobility in soil

### 12.5. Results of PBT and vPvB assessment

### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

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#### 13.1. Waste treatment methods

- Product disposal** : Material may be recyclable.
- Disposal method** : Dispose of according to applicable federal, state, provincial, and local regulations.
- Empty container** : Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

#### SECTION 14: Transport information

##### 14.1. UN number

##### 14.2. UN proper shipping name

**UN proper shipping name** : Not Regulated

##### 14.3. Transport hazard class(es)

**Primary hazard class/division** : Not Regulated

##### 14.4. Packing group

##### 14.5. Environmental hazards

##### 14.6. Special precautions for user

##### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

#### SECTION 15: Regulatory information

##### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

###### National regulations (Germany)

**(WGK) classification** : 1- Slight Hazard

##### 15.2. Chemical safety assessment

#### SECTION 16: Other information

**Approved by** : EHS DEPT

**Prepared by** : E Bolton

**Information contact** : fluids@lesker.com

**Revision summary** : This MSDS replaces the 3/10/2015 MSDS.

**Manufacturer disclaimer** : Kurt J. Lesker Company ("KJLC") believes the information contained in this Material Safety Data Sheet is accurate as of the "Date of Last Revision" specified. The information relates only to typical properties of the product. Do not use the information for product performance or specification purposes. The information is for use by technically skilled persons at their own risk. KJLC MAKES NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR THE INFORMATION. The information may not be valid for product use in combination with any other product or material or in any process. KJLC expressly disclaims any liability arising from any use of the product or any reliance on the information. Do not treat the information (a) as assurance that use of the product will not infringe patent or other rights or (b) as a license or grant of patent or other property rights. "KJLC" means KJLC and each of its subsidiaries.