



# SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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## Neoloy® Plus CoCr alloy

Revision 0  
Revision date 2022-03-31

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

#### 1.1. Product identifier

Product name Neoloy® Plus CoCr alloy

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

Company	Ransom & Randolph
Address	3535 Briarfield Boulevard, PO Box 1570 Maumee, Ohio 43537 USA
Web	www.ransom-randolph.com
Telephone	+1 (419) 865-9497
Fax	+1 (419) 865-9997
Email	SDS@ransom-randolph.com
Email address of the competent person	dyouel@ransom-randolph.com

#### 1.4. Emergency telephone number


Emergency telephone number	USA +1 419 865 9497
Company	Ransom & Randolph Co. 08:00-17:00 (US Eastern Std. / GMT minus 5)

### SECTION 2: Hazards identification

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

2.1.2. Classification - EC 1272/2008	Acute Tox. 4: H302; Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Irrit. 2: H319; Resp. Sens. 1: H334; Carc. 2: H351; STOT RE 2: H373; Aquatic Chronic 4: H413;
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#### 2.2. Label elements

Hazard pictograms	<p>Contains Cobalt, Chromium &amp; Nickel.</p> <p>This mixture - IN THE FORM OF INGOTS - does not meet the criteria for classification in accordance with 29 CFR 1910.1200.</p> <p>Use in accordance with this Safety Data Sheet (SDS).</p> <p>The hazards as stated on this SDS APPLY, IF dust or fumes are release, when/if the product is cut, ground, sanded, or heated.</p> <p>The hazards associated with this product are exempt when the product remain in its solid form - as ingots.</p> 
Signal Word	Danger
Hazard Statement	Acute Tox. 4: H302 - Harmful if swallowed.

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## 2.2. Label elements

<b>Precautionary Statement: Prevention</b>	<p>Skin Irrit. 2: H315 - Causes skin irritation.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation.</p> <p>Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>Carc. 2: H351 - Suspected of causing cancer inhalation.</p> <p>STOT RE 2: H373 - May cause damage to organs (lungs) through prolonged or repeated exposure inhalation.</p> <p>Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life.</p>
<b>Precautionary Statement: Response</b>	<p>Cobalt dust may form combustible dust concentrations in air,</p> <p>P201 - Obtain special instructions before use.</p> <p>P202 - Do not handle until all safety precautions have been read and understood.</p> <p>P260 - Do not breathe dust/fume/gas/mist/vapours/spray.</p> <p>P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>P264 - Wash (hands) thoroughly after handling.</p> <p>P270 - Do no eat, drink or smoke when using this product.</p> <p>P272 - Contaminated work clothing should not be allowed out of the workplace.</p> <p>P273 - Avoid release to the environment.</p> <p>P280 - Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P284 - [In case of inadequate ventilation] wear respiratory protection.</p>
<b>Precautionary Statement: Storage</b>	P405 - Store locked up.
<b>Precautionary Statement: Disposal</b>	P501 - Dispose of contents/container to local and national regulations

## SECTION 3: Composition/information on ingredients

## 3.2. Mixtures

## EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
Cobalt (USA)		7440-48-4			60 - 70%	EUH018; Skin Sens. 1: H317; Resp. Sens. 1: H334; Carc. 2: H351; Aquatic Chronic 4: H413;
Chromium		7440-47-3			20 - 30%	Acute Tox. 4: H302; Acute Tox. 4: H312; Skin Irrit. 2: H315; Eye Irrit. 2: H319;
Molybdenum		7439-98-7			1 - 10%	
Nickel	028-002-00-7	7440-02-0	231-111-4		1 - 10%	Carc. 2: H351; STOT RE 1: H372; Skin Sens. 1: H317;
Ferric iron					1 - 10%	Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335;

## SECTION 4: First aid measures

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## 4.1. Description of first aid measures

Inhalation	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/ [], 800-222-1222. Move the exposed person to fresh air.
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open.
Skin contact	Wash off immediately with plenty of soap and water. Remove contaminated clothing.
Ingestion	Drink 1 to 2 glasses of water. DO NOT INDUCE VOMITING.

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

Inhalation	May cause irritation to eyes and respiratory system.
Eye contact	May cause irritation to eyes.
Skin contact	May cause irritation to skin.
Ingestion	May cause irritation to mucous membranes.

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

Inhalation	Seek medical attention.
Eye contact	Seek medical attention.
Skin contact	Seek medical attention.
Ingestion	Seek medical attention.

## SECTION 5: Firefighting measures

## 5.1. Extinguishing media

	Sand. Dry chemical.
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## 5.2. Special hazards arising from the substance or mixture

	Burning produces irritating, toxic and obnoxious fumes.  Moderate fire hazard when it is in the form of a dust (powder) and burns rapidly when heated in flame. Chromium is attacked vigorously by fused potassium chlorate producing vivid incandescence. Pyrophoric chromium unites with nitric oxide with incandescence. Incandescent reaction with nitrogen oxide or sulfur dioxide.  Special Remarks on Explosion Hazards: Powdered Chromium metal +fused ammonium nitrate may react violently or explosively. Powdered Chromium will explode spontaneously in air. Metal in bulk form is not combustible. Fire and explosion hazards exist when dust particles are exposed to heat, flames, strong oxidizers, or chemicals that support combustion.
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## 5.3. Advice for firefighters

	Self-contained breathing apparatus. Wear suitable protective clothing.
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## SECTION 6: Accidental release measures

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

	Ensure adequate ventilation of the working area. Wear suitable protective equipment.
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## 6.2. Environmental precautions

	Do not allow product to enter drains. Prevent further spillage if safe.
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## 6.3. Methods and material for containment and cleaning up

	Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.
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## SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

	Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
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## 7.2. Conditions for safe storage, including any incompatibilities

	Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers.
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## 7.3. Specific end use(s)

	Foundry material.
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## SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

	<p>Ensure adequate ventilation of the working area.</p> <p>exposure limits: Chromium 7440-47-3 - OSHA PEL (respirable fraction) 1 mg/m<sup>3</sup> TWA, ACGIH TLV 0.5 mg/m<sup>3</sup> TWA (respirable fraction).</p> <p>exposure limits: Ferric oxide 1309-37-1 - OSHA PEL total dust 15 mg/m<sup>3</sup> TWA, OSHA PEL 5 mg/m<sup>3</sup> (respirable fraction) TWA, ACGIH TLV 5 mg/m<sup>3</sup> TWA (respirable fraction).</p> <p>exposure limits: Molybdenum 7439-98-7 - OSHA PEL total dust 15 mg/m<sup>3</sup> TWA, ACGIH TLV 3 mg/m<sup>3</sup> TWA (respirable fraction).</p> <p>exposure limits: Cobalt 7440-48-4 - OSHA PEL (metal dust and fume fraction) 0.1 mg/m<sup>3</sup> TWA, ACGIH TLV 0.2 mg/m<sup>3</sup> TWA (respirable fraction - BEI).</p> <p>exposure limits: Nickel 7440-02-0 - OSHA PEL (respirable fraction) 1 mg/m<sup>3</sup> TWA, ACGIH TLV 1.5 mg/m<sup>3</sup> TWA (inhalable fraction).</p>
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## 8.1.1. Exposure Limit Values

Chromium	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m <sup>3</sup> : 0.5
	WEL 15 min limit ppm: -	WEL 15 min limit mg/m <sup>3</sup> : -
	WEL 8-hr limit mg/m <sup>3</sup> total inhalable dust: -	WEL 15 min limit mg/m <sup>3</sup> total inhalable dust: -
	WEL 8-hr limit mg/m <sup>3</sup> total respirable dust: -	WEL 15 min limit mg/m <sup>3</sup> total respirable dust: -

## 8.2. Exposure controls

8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2. Individual protection measures	Wear chemical protective clothing.
Eye / face protection	Approved safety goggles.
Skin protection - Handprotection	Chemical resistant gloves (PVC).
Respiratory protection	Wear: Suitable respiratory equipment.

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

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## 9.1. Information on basic physical and chemical properties

Appearance	Solid/Pellets
Colour	Silver
Odour	Odourless
pH	Not applicable.
Melting point	= 1376 °C
Freezing Point	Not applicable.
Initial boiling point	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	No data available
Relative density	8.7 (H <sub>2</sub> O = 1 @ 20 °C)
Fat Solubility	Not applicable.
Partition coefficient	Not applicable.
Autoignition temperature	Not relevant
Viscosity	Not applicable.
Explosive properties	No data available
Oxidising properties	No data available
Solubility	Not applicable.

## 9.2. Other information

Conductivity	Not applicable.
Surface tension	Not applicable.

## SECTION 10: Stability and reactivity

## 10.1. Reactivity

	Stable under normal conditions.
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## 10.2. Chemical stability

	Stable under normal conditions.
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## 10.3. Possibility of hazardous reactions

	Dust. may react with. Strong acids and strong bases. Strong oxidising agents.
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## 10.4. Conditions to avoid

	Keep away from water. petroleum products.
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## 10.5. Incompatible materials

	Water. petroleum products.
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## 10.6. Hazardous decomposition products

	Burning produces irritating, toxic and obnoxious fumes. toxic chromium oxide fumes.
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## SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

Acute toxicity	Cobalt. Oral Rat LD50 = 6170 mg/kg. Molybdenum. Oral Rat LD50 = > 5000 mg/kg. Ferric oxid. Oral Rat LD50 = > 5000 mg/kg.
Skin corrosion/irritation	May cause irritation to skin, eyes and mucous membranes.
Respiratory or skin sensitisation	May cause sensitisation by skin contact. May cause sensitisation by inhalation.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Cobalt & Nickel. POSSIBLE CANCER HAZARD (CONTAINS MATERIAL WHICH) MAY CAUSE CANCER BASED ON ANIMAL DATA.

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## 11.1. Information on toxicological effects

Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Harmful if swallowed.

## 11.1.4. Toxicological Information

	No data available
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## SECTION 12: Ecological information

## 12.1. Toxicity

	No data available
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## 12.2. Persistence and degradability

	No observed adverse effect level.
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## 12.3. Bioaccumulative potential

## Partition coefficient

	Neoloy® Plus CoCr alloy Not applicable.
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## 12.4. Mobility in soil

	No data is available on this product.
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## 12.5. Results of PBT and vPvB assessment

	Not applicable.
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## SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

	Dispose of in compliance with all. local and national regulations.
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## General information

	Do not allow runoff water to enter sewers or drains.
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## Disposal methods

	Contact a licensed waste disposal company.
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## Disposal of packaging

	Do NOT reuse empty containers. Empty containers can be sent for disposal or recycling.
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## SECTION 14: Transport information

## 14.1. UN number

	The product is not classified as dangerous for carriage.
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## 14.2. UN proper shipping name

	The product is not classified as dangerous for carriage.
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## 14.3. Transport hazard class(es)

	The product is not classified as dangerous for carriage.
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## 14.4. Packing group

	The product is not classified as dangerous for carriage.
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## 14.5. Environmental hazards

	The product is not classified as dangerous for carriage.
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## 14.6. Special precautions for user

	The product is not classified as dangerous for carriage.
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## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

	The product is not classified as dangerous for carriage.
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## Further information

	The product is not classified as dangerous for carriage.
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## SECTION 15: Regulatory information

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

Regulations	<p>U.S. FEDERAL REGULATIONS: Neoloy Plus CoCr alloy ingots. CERCLA 103 Reportable Quantity: is not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.</p> <p>SARA TITLE III: Hazard Category For Section 311/312: Chronic health</p> <p>Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): Cobalt 7740-48-4; Chromium 7440-47-3; Nickel 7440-02-0</p> <p>Section 302 Extremely Hazardous Substances (TPQ): None</p> <p>EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed or exempt on the TSCA inventory.</p> <p>U.S. STATE REGULATIONS California Proposition 65: This product can expose you to chemicals including Cobalt and Nickel which are known to the State of California to cause cancer. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>.</p>
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## 15.2. Chemical safety assessment

	No data is available on this product.
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## SECTION 16: Other information

## Other information

Text of Hazard Statements in Section 3	<p>EUH018 - In use may form flammable/explosive vapour-air mixture.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>Carc. 2: H351 - Suspected of causing cancer .</p> <p>Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life.</p> <p>Acute Tox. 4: H302+H312 - Harmful if swallowed or in contact with skin</p> <p>Skin Irrit. 2: H315 - Causes skin irritation.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation.</p> <p>STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure .</p> <p>STOT SE 3: H335 - May cause respiratory irritation.</p>
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## Further information

	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.
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