

# Material Safety Data Sheet

**SULZER**

1211, 1213, 1214, 1231, 1232, 1233, 1234, 7111, 7143, 7151, 7161, 7181,  
7182, 7183, 7185, 7187, 7191, 7211, 7231, 7236, 7402, 7403, 7405, 7406,  
7410, 7414, 7422, 7424, 7426, 7451, 7452

Sulzer Metco

## 1. Product and company identification

- Common name** : 1211, 1213, 1214, 1231, 1232, 1233, 1234, 7111, 7143, 7151, 7161, 7181, 7182, 7183, 7185, 7187, 7191, 7211, 7231, 7236, 7402, 7403, 7405, 7406, 7410, 7414, 7422, 7424, 7426, 7451, 7452
- Material uses** : Various industrial uses and applications including electroplating, electronics and powder metallurgy.
- Supplier** : Sulzer Metco (Canada) Inc.  
10108 - 114 Street  
Fort Saskatchewan  
Alberta  
T8L 4R1  
Canada
- Telephone no.** : (780) 992-5100 (7:30AM - 4:00PM)
- Emergency Phone** : **CHEMTREC 800-424-9300**
- Calls Outside the United States** : **+1 202-483-7616 (USA) 24 hour Chemtrec International emergency response service**

## 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Emergency overview**
- Physical state** : Solid. (Metallic powder.)
- Color** : Gray.
- Odor** : Odorless.
- Health hazards** : Warning!  
CANCER HAZARD.  
CONTAINS MATERIAL WHICH CAN CAUSE CANCER.  
CAUSES RESPIRATORY TRACT AND SKIN IRRITATION.  
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
LUNGS, SKIN, NOSE, SINUSES.
- Potential acute health effects**
- Routes of entry** : Inhalation, Ingestion, Skin contact, Eye contact
- Eyes** : Moderately irritating to eyes.
- Skin** : Exposure to high concentrations may result in health complaints. Prolonged or repeated exposure may be irritating (redness, pain). May cause sensitization by skin contact (sweating, fever, pain). In oversensitive people even exposure to very small amounts causes allergic reactions.
- Inhalation** : Exposure to high concentrations may result in health complaints. Irritating to respiratory system. Exposure may result in depressed respiration, coughing, nausea and sore throat. Prolonged or repeated exposure to large amounts may cause damage to lungs (lung edema). May cause sensitization by inhalation (fever, pain). In oversensitive people even exposure to very small amounts causes allergic reactions.
- Ingestion** : Prolonged or repeated exposure may be irritating to mouth, throat and esophagus (sore throat, nausea).
- Medical conditions aggravated by over-exposure** : Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated or prolonged exposure to the substance can produce target organs damage.

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**Environmental effects** : No known significant effects or critical hazards.

### 3 . Composition/information on ingredients

<u>Ingredient name</u>	<u>CAS Number</u>	<u>% by weight</u>
Nickel	7440-02-0	99.5 - 99.9
Cobalt	7440-48-4	0.1 - 0.25

### 4 . First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### 5 . Fire-fighting measures

- Auto-ignition temperature** : Not available.
- Flash point** : Not available.
- Flammable limits** : Not available.
- Extinguishing media**
- Suitable** : Use approved Class D extinguisher or smother with dry sand, dry clay or dry ground limestone.
- Not suitable** : Do not use water. Do not use dry chemical, CO2 or halon.
- Special exposure hazards** : Fine dust clouds may form explosive mixtures with air.
- Hazardous thermal decomposition products** : Some metallic oxides.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire hazards in the presence of various substances** : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts
- Explosion hazards in the presence of various substances** : Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts

## 6 . Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. Pick up material with non-sparking shovel or explosion proof vacuum cleaner. Place spilled material in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal. Recycle, if possible.

## 7 . Handling and storage

- Handling** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Keep away from heat, sparks and flame. Will react with water or steam to produce heat and toxic fumes. To avoid fire, eliminate ignition sources. Avoid creating dusty conditions when handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8 . Exposure controls/personal protection

### Ingredient name

Nickel

### Exposure limits

**ACGIH TLV (United States, 1/2005).**

TWA: 1.5 mg/m<sup>3</sup> 8 hour(s). Form: Metallic form

**OSHA PEL (United States, 8/1997).**

TWA: 1 mg/m<sup>3</sup> 8 hour(s). Form: All forms

**NOM-010-STPS (Mexico, 9/2000).**

CPT: 1 mg/m<sup>3</sup> 8 hour(s). Form: All forms

Cobalt

**ACGIH TLV (United States, 1/2005).**

TWA: 0.02 mg/m<sup>3</sup> 8 hour(s). Form: Inorganic

**OSHA PEL (United States, 8/1997).**

TWA: 0.1 mg/m<sup>3</sup> 8 hour(s). Form: All forms

**NOM-010-STPS (Mexico, 9/2000).**

CPT: 0.1 mg/m<sup>3</sup> 8 hour(s). Form: Powder and Smoke

**Consult local authorities for acceptable exposure limits.**

- Additional information** : NTP classifies nickel compounds as Known to be Carcinogenic.
- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Personal protective equipment**
- Eyes** : Safety glasses or goggles are recommended when handling this material.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Rubber or other appropriate gloves should be worn to minimize contact. For hygienic reasons rubber gloves should not be worn for more than 2 hours.

**Protective Clothing (Pictograms)**



**Personal protection in case of a large spill** : Wear suitable protective clothing, gloves and eye/face protection.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9 . Physical and chemical properties

<b>Physical state</b>	: Solid. (Metallic powder.)
<b>Color</b>	: Gray.
<b>Odor</b>	: Odorless.
<b>Taste</b>	: Not available.
<b>Molecular weight</b>	: Not applicable.
<b>Molecular formula</b>	: Not applicable.
<b>pH</b>	: Not applicable.
<b>Boiling/condensation point</b>	: Not available.
<b>Melting/freezing point</b>	: 1554.9°C (2830.8°F) based on data for: Nickel.
<b>Explosive properties</b>	: Fine dust clouds may form explosive mixtures with air.
<b>Specific gravity</b>	: The only known value is 8.9 (Water = 1) (Nickel).
<b>Vapor pressure</b>	: Not applicable.
<b>Vapor density</b>	: Not applicable.
<b>Volatility</b>	: Not available.
<b>Odor threshold</b>	: Not available.
<b>Evaporation rate</b>	: Not applicable.
<b>VOC</b>	: Not available.
<b>Viscosity</b>	: Not applicable.
<b>Partition coefficient</b>	: Not available.
<b>Ionicity (in water)</b>	: Not available.
<b>Dispersibility properties</b>	: Not available.
<b>Solubility</b>	: Insoluble in cold water.
<b>Physical/chemical properties comments</b>	: Not available.
<b>Flash points</b>	: Not available.
<b>Flammable limits</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.

## 10 . Stability and reactivity

<b>Stability and reactivity</b>	: The product is stable under normal storage conditions.
<b>Incompatibility with various substances</b>	: Not available.
<b>Hazardous decomposition products</b>	: Some metallic oxides.
<b>Conditions to avoid</b>	: Store and use away from heat, sparks, open flame or any other ignition source.

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- Materials to avoid** : Avoid contact with combustible materials, acids, oxidizing agents, halogenated hydrocarbons.
- Conditions of reactivity** : Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts.  
Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts.
- Conditions of instability** : Not available.

## 11 . Toxicological information

### Toxicity data

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Nickel	LDLo	5 mg/kg	Oral	Guinea pig
Cobalt	LD50	6171 mg/kg	Oral	Rat
	LDLo	750 mg/kg	Oral	Rabbit

- Chronic effects on humans** : **CARCINOGENIC EFFECTS:** Classified 2 (Reasonably anticipated to be human carcinogens.) by NTP: [Nickel]  
Classified + (Proven) by NIOSH: [Nickel]  
Classified None. by NIOSH: [Cobalt]  
Classified A3 (Proven for animals.) by ACGIH: [Cobalt]  
Classified A5 (Not suspected for humans.) by ACGIH: [Nickel]  
Classified 2B (Possible for humans.) by IARC: [Nickel; Cobalt]  
Contains material which causes damage to the following organs: lungs, skin, nose/sinuses.

- Other toxic effects on humans** : Hazardous in case of skin contact (sensitizer).

### Specific effects

- Carcinogenic effects** : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
- Reproduction toxicity** : No known significant effects or critical hazards.
- Target organs** : Contains material which causes damage to the following organs: lungs, skin, nose/sinuses.

### Irritancy

- Ingestion** : No known significant effects or critical hazards.
- Inhalation** : Irritating to respiratory system.
- Eyes** : Moderately irritating to eyes.
- Skin** : Irritating to skin.
- Synergistic products** : Not available.

## 12 . Ecological information

### Ecotoxicity data

- BOD and COD** : Not available.
- Biodegradable/OECD** : Not available.
- Mobility** : Not available.
- Products of degradation** : Some metallic oxides.
- Toxicity of the products of biodegradation** : The product itself and its products of degradation are not toxic.
- Special remarks on the products of biodegradation** : Not available.

## 13 . Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid

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dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

**Disposal of packaging materials**

: Contaminated packaging material should be disposed of in the same manner as the product itself. Non-contaminated or clean packaging material, should be reused for the same product, treated as domestic waste, or material for recycling.

Consult your local or regional authorities.

**14 . Transport information**

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
<b>DOT Classification</b>	UN3077	Environmentally hazardous substance, solid, N.O.S. (Nickel Powder)	9	III	Class 9	Only applicable to packages containing 100 pounds or more of nickel powder that is less than 100 microns in size.
<b>TDG Classification</b>	Not regulated.	-	-			
<b>ADR/RID Class</b>	Not regulated.	-	-			
<b>IMDG Class</b>	Not regulated.	-	-			
<b>IATA-DGR Class</b>	Not regulated.	-	-			

**15 . Regulatory information**

United States

**HCS Classification** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**U.S. Federal regulations** : TSCA 8(b) inventory: All the ingredients are on the TSCA list.  
 SARA 302/304/311/312 extremely hazardous substances: No products were found.  
 SARA 302/304 emergency planning and notification: No products were found.  
 SARA 302/304/311/312 hazardous chemicals: Nickel  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Nickel: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard  
 Clean Water Act (CWA) 307: Nickel  
 Clean Water Act (CWA) 311: No products were found.  
 Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
 Clean Air Act (CAA) 112 regulated flammable substances: No products were found.  
 Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	<u>Ingredient name</u>	<u>CAS Number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	Nickel	7440-02-0	99.5 - 99.9
	Cobalt	7440-48-4	0.1 - 0.25
<b>Supplier notification</b>	Nickel	7440-02-0	99.5 - 99.9
	Cobalt	7440-48-4	0.1 - 0.25

**State regulations** : Pennsylvania RTK: Nickel: (special hazard, environmental hazard, generic environmental hazard); Cobalt: (environmental hazard, generic environmental hazard)  
 Massachusetts RTK: Nickel; Cobalt  
 New Jersey: Nickel; Cobalt

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**WARNING:** This product contains chemical/chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.: Nickel; Cobalt

**WARNING:** This product contains chemical/chemicals known to the state of California to cause reproductive harm (female).: No products were found.

**WARNING:** This product contains chemical/chemicals known to the state of California to cause cancer.: Nickel, Cobalt

### Canada

**WHMIS (Canada)** : Class D-2A: Material causing other toxic effects (Very toxic).  
All the ingredients are on the DSL list.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

## 16 . Other information

**Label requirements** : Warning!  
CANCER HAZARD.  
CONTAINS MATERIAL WHICH CAN CAUSE CANCER.  
CAUSES RESPIRATORY TRACT AND SKIN IRRITATION.  
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
LUNGS, SKIN, NOSE, SINUSES.

**National Fire Protection Association (U.S.A.)** :



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### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.