

# SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

**1.1 PRODUCT BRAND** : CINOX WELD  
**PRODUCT NAME** : CINOX 220  
**PRODUCT TYPE** : Filler metal: Covered electrode – high alloyed

**1.2 DISTRIBUTE BY (COMPANY)** : Jaya Sukses Industris Sdn Bhd Telephone: +603 8023 6199  
FAX: +603 8023 5199

**ADDRESS** : 17, Jalan Industri USJ 1/4,  
Taman Perindustrian USJ 1,  
47600 Selangor

## 2. IDENTIFICATION OF HAZARDS

**Emergency Overview:** Coated metal rods in varying colors. These products are normally not considered hazardous as shipped. Gloves should be worn when handling to prevent contaminating hands with product dust. These products contain titanium dioxide which is possibly carcinogenic. These products contain quartz, but normally not in an inhalable fraction. Quartz can cause silicosis and may cause cancer. Avoid eye contact or inhalation of dust from these products. Skin contact is normally no hazard but should be avoided to prevent possible allergic reactions. Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device. When these products are used in a welding process, the most important hazards are heat, radiation, electric shock and welding fumes.

**Heat:** Spatter and melting metal can cause burn injuries and start fires.

**Radiation:** Arc rays can severely damage eyes or skin.

**Electricity:** Electric shock can kill.

**Fumes:** Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

**CLP/GHS Classification (1272/2008):**

**Skin Sensitization, Category 1**

**Carcinogenicity, Category 2**

**Specific Target Organ Toxicity (Repeated Exposure), Category 1**

**Hazardous to the Aquatic Environment – Acute Hazard, Category 1**

**EU Classification (67/548/EEC):**

**Toxic (T), Harmful (Xn), Irritant (Xi), Carcinogen Category 3, R48/23, R40, R43**

Labelling:  
g:



**Signal Word:** Warning

# SAFETY DATA SHEET

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	Range %	Hazard Classification	CLP/GHS	Classification
Bentonite	1302-78-9	1-11	Not Dangerous		Not Hazardous
Calcium Carbonate	1317-65-3	1-11	Not Dangerous		Not Hazardous
#Chromium	7440-47-3	20-30	Not Dangerous		(H400) Aquatic Acute 1
Feldspar	68476-25-5	10-20	Not Dangerous		Not Hazardous
Calcium Fluoride	7789-75-5	1-11	(Xi) R36/37/38		(H315) Skin Irrit..2
		(H319) Eye Irrit.. 2A	(H335) STOT SE 3		
Yellow Pigment	68186-90-3-1-5	0.5 (Cr & Sb)	Not Dangerous		Not Hazardous
#Manganese	7439-96-5	1-11	(Xn) R48		(H373) STOT RE 2
#Nickel	7440-02-0	5-15	Carc. Cat. 3;		(H317) Skin Sens. 1
		(Xn) R40	(H351) Carc. 2		
		(Xi) R43	(H372) STOT RE 1		
		(T) R48/23			
Titanium Dioxide	13463-67-7	10-20	Carc. Cat. 3		
		(Xn) R40	(H351) Carc. 2		
Potassium Silicate	1312-76-1	1-11	(Xi) R36/38		(H315) Skin Irrit.. 2
			(H319) Eye..2A		
Iron	7439-89-6	30-40	Not Dangerous		Not Hazardous
			#810		

**Important** This section covers the materials of which the products manufactured. The fumes and gases produced during normal use of this product are covered in section 10. The term “Hazardous” in “Hazardous Material” should be interpreted as a term required and defined in OSHA Hazard Communication Standard 29CFR 1910-1200 and it does not necessarily imply the existence of hazard. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

### 4. FIRST AID MEASURES

**Inhalation:** If breathing is difficult, provide fresh air and obtain medical assistance immediately!

**Eye contact:** For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.

**Skin contact:** For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.

**Electric shock:** Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. Immediately contact a physician.

**Ingestion:** Obtain medical attention immediately if ingested.

**General:** Move to fresh air and call for medical aid.



# SAFETY DATA SHEET

Chemical Identity	CAS #	OSHA PEL(mg/m <sup>3</sup> )	ACGIH-TLV (mg/m <sup>3</sup> )
Bentonite	1302-78-9	NR	NR
Calcium Carbonate	1317-65-3	5 (as CaO)	10
#Chromium	7440-47-3	1.0 (Metal) .05 (Cr II & Cr III Compounds) 0.005 (Cr VI Compounds) 0.01 (Cr VI Insoluble Compounds)	0.5 (Metal) 0.5 (Cr III Compounds) 0.05 (Cr VI Soluble Compounds)
Feldspar	68476-25-5	NR	NR
Calcium Fluoride	7789-75-5	2.5 (as F)	2.5 (as F)
#Manganese	7439-96-5	5	1
#Nickel	7440-02-0	1	1
Titanium Dioxide	13463-67-7	15	10
Potassium Silicate	1312-76-1	NR	5
Iron	7439-89-6	10 (as Fe203)	5 (as Fe203)

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid

**Appearance:** Gold

**Odor:** Odorless

**Odor Threshold:** No information available

**pH:** No information available

**Melting Point/Range:** 850 - 1100 °C / 1560 - 2000 °F

**Boiling Point/Range:** No information available

**Flash Point:** No information available

**Evaporation Rate:** No information available

**Flammability (solid, gas):** No information

### Flammability or explosive limits

**Upper:** No data available

**Lower:** No data available

**Vapor Pressure:** No information available

**Vapor Density:** No information available

**Relative Density:** 6-9g /cm<sup>3</sup>

**Solubility:** Insoluble in water

**Partition coefficient; n-octanol/water:** No data available

**Auto-ignition Temperature:** No information available

**Decomposition temperature:** No information available

**Viscosity:** No information available

# SAFETY DATA SHEET

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** This product is stable under normal conditions.

**Hazardous Reactions:** Contact with chemical substances like acids or strong bases cause generation of gas.

**Conditions to Avoid:** This product is stable under normal conditions.

**Incompatible Materials:** Reacts with acid.

**Hazardous Decomposition Products:** When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of the material listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in section 3. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

## 11. TOXICOLOGICAL INFORMATION

**Signs and Symptoms of Overexposure:** Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contaminants and processes. The Internal Agency for Research on Cancer has classified welding fumes as possible carcinogenic to humans (Group 2B).

**Acute Effects:** Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. It may cause sensitisation by skin contact.

### LD/LC50 Values that's are relevant for classification

<b>Bentonite 1302-78-9</b>	<b>Intravenous</b>	LD50	35 mg/kg (rat)
		LC50	19000 mg/l (96h) (rainbow trout)
<b>Calcium Carbonate 1317-65-3</b>	<b>Oral</b>	LD50	>2000 mg/kg (rat)
	<b>Inhalation</b>	LC50	>3 mg/L/4hr. (rat)
	<b>Dermal</b>	LD50	>2000 mg/kg (rat)
<b>Chromium 7440-47-3</b>	<b>Oral</b>	LD50	19.8 mg/kg (rat) (highly toxic)
<b>Calcium Fluoride 7789-75-5</b>	<b>Oral</b>	LD50	>2000 mg/kg (rat)
	<b>Inhalation</b>	LC50	>5070 mg/m <sup>3</sup> /4 hr. (rat)
<b>Manganese 7439-96-5</b>	<b>Oral</b>	LD50	9000 mg/kg (rat)
<b>Nickel 7440-02-0</b>	<b>Oral</b>	LD50	>9000 mg/kg (rat)
	<b>Inhalation</b>	LC50	>10.2 mg/L/1 hr. (rat)
<b>Titanium Dioxide 13463-67-7</b>	<b>Oral</b>	LD50	>10000 mg/kg (rat)
	<b>Dermal</b>	LD50	>10000 mg/kg (rabbit)
<b>Iron 7439-89-6</b>	<b>Oral</b>	LD50	30000 mg/kg (rat)

**Chronic Effects:** Overexposure to welding fumes may affect pulmonary function and eyes. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. Prolonged inhalation of nickel (Classified 2B by IARC and R by NTP) above safe exposure limits may cause cancer. Prolonged inhalation of titanium dioxide (Classified by 2B by IARC) above safe exposure limits can cause cancer.

# SAFETY DATA SHEET

## 12. ECOLOGICAL INFORMATION

**Toxicity:** Welding rods contain metals which are considered to be very toxic towards aquatic organisms. Finely divided welding rods are therefore considered harmful to aquatic organisms.

**Persistence and Degradability:** The welding rods consist of elements that cannot degrade any further in the environment.

**Bio accumulative Potential:** Welding rods contain heavy metals which bio accumulates in the food chain. The following figures are the bio concentration factor (BCF) for the substances on their own.

BCF:

Chromium, BCF: 200

Manganese, BCF: 59052

Nickel, BCF: 16

Iron, BCF: 140000

**Mobility in Soil:** Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

**Other Adverse Effects:** In massive form, welding rods present no hazards to the aquatic environment. Welding materials could degrade into components originating from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

## 15. REGULATORY INFORMATION

**Safety, health and environment regulations/legislation specific for the substance or mixture:** Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

**Warning:** Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. Electric shock can kill. Arc rays and sparks can injure eyes and burn skin. Wear correct hand, head, eye and body protection.

**Chemical safety assessment:** No

Under the OSHA Hazard Communication Standard, this product is considered hazardous. This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 et seq.) United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.

**EPCRA/SARA Title III Toxic Chemicals**

The following metallic components are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA reporting. See Section 3 for weight percentage.

<b>Ingredient Name</b>	<b>Disclosure Threshold</b>
Chromium	1.0 (Metal)
Magnesium	5 mg/m <sup>3</sup>
Nickel	1 mg/m <sup>3</sup>

# SAFETY DATA SHEET

## 16. OTHER INFORMATION

**Revision Summary** This document has been updated to comply with the OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

### Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. The information and product are furnished on the condition that the person receiving them shall make his own determinations as to suitability of the product for his particular purpose and on the condition that he assumes the risk of his use thereof.

### Hazard Statements:

**H315** - Causes skin irritation.

**H317** - May cause an allergic skin reaction.

**H319** - Causes serious eye irritation.

**H335** - May cause respiratory irritation.

**H351** - Suspected of causing lung cancer.

**H372** - Causes damage to organs through prolonged or repeated exposure.

**H373** - May cause damage to organs through prolonged or repeated exposure.

**H400** - Very toxic to aquatic life.

**R-Phrases: R36/38** - Irritating to eyes and skin.

**R36/37/38** - Irritating to eyes, respiratory system and skin.

**R40** - Limited evidence of a carcinogenic effect.

**R43** - May cause sensitization by skin contact.

**R48** - Danger of serious damage to health by prolonged exposure.

**R48/23** - Toxic: danger of serious damage to health by prolonged exposure through inhalation.

**S-Phrases: S15** - Keep away from heat.

**S26** - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**S28** - After contact with skin, wash immediately with plenty of water.

**S36/37/39** - Wear suitable protective clothing, gloves and eye/face protection.

**S43** - In case of fire, use fire-fighting equipment on basis class D.

**END OF SDS**