CINOX WELD

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Pages:1 to 8

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT BRAND : **CINOX WELD**
PRODUCT NAME : CINOX 299
PRODUCT TYPE : Filler metal; Covered electrode – high alloyed

1.2 DISTRIBUTE BY (COMPANY) : Jaya Sukses Industries Sdn Bhd TELEPHONE: +60 3 8023 6199
FAX: +60 3 8023 5199

ADDRESS : 17, Jalan Industri USJ1/4,
Taman Perindustrian USJ 1, 47600 Selangor D.E.

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:

Symbols:

Signal Word: Warning

SAFETY DATA SHEET

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity	CAS #	Range %	Hazard Classification	CLP/GHS Classification (1272/2008)
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 (H319) Eye Irrit.. 2A	(Xi) R36/37/38 (H335) STOT SE 3	(H315) Skin Irrit.. 2
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 (Xn) R40 (Xi) R43 (T) R48/23	Carc. Cat. 3; (H351) Carc. 2 (H372) STOT RE 1	(H317) Skin Sens. 1
Titanium Dioxide	13463-67-7	10-20 (Xn) R40	Carc. Cat. 3 (H351) Carc. 2	
Potassium Silicate	1312-76-1	1-11	(Xi) R36/38 (H319) Eye..2A	(H315) Skin Irrit.. 2
Iron	7439-89-6	30-40	Not Dangerous #810	Not Hazardous

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.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media: No information available
Flash Point: No information available
Method: No information available
Auto-ignition Temperature: No information available
Explosion Limits **Upper:** No data available **Lower:** No data available
Sensitivity to Mechanical Impact: No information available
Sensitivity to Static Discharge: No information available
Specific Hazards Arising from the Chemical: Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.
Hazardous Combustion Products: Carbon monoxide (CO) Carbon dioxide (CO2)
Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA	Health	Flammability	Instability	Physical hazards
	2	1	0	N/A

6. ACCIDENTAL RELEASE MEASURES

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.
Personal precautions: refer to Section 8.
Environmental precautions: refer to Section 13.

7. HANDLING AND STORAGE

Handling: Handle with care to avoid stings and cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.
Storage: Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions. Store in cool, dry place in sealed containers.

SAFETY DATA SHEET

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep working place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment: Use respirator or air supplied respirator when welding or brazing in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Use special care when welding painted or coated steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Exposure limits: Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance. For information about welding fume analysis refer to Section 10.
EN 12477: Protection gloves for welders.

Chemical Identity	**CAS #**	**OSHA PEL(mg/m³)**	**ACGIH-TLV (mg/m³)**
Bentonite	1302-78-9	NR	NR
Calcium Carbonate	1317-65-3	5 (as CaO)	10
#Chromium	7440-47-3	1.0 (Metal)	0.5 (Metal)
		.05 (Cr II & Cr IIII Compounds)	0.5 (Cr IIII Compounds)
		0.005 (Cr VI Compounds)	0.05 (Cr VI Soluble Compounds)
		0.01 (Cr VI Insolube Compounds)	
Feldspar	68476-25-5	NR	NR
Calcium Fluoride	7789-75-5	2.5 (as F)	2.5 (as F)
Yellow Pigment	68186-90-3 1-5	0.5 (Cr & Sb)	0.5 (Cr & Sb)
#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)

SAFETY DATA SHEET

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 /cm³
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

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.

SAFETY DATA SHEET

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. may cause sensitisation by skin contact.

LD/LC50 Values that's are relevant for classification

Bentonite 1302-78-9	**Intravenous**	LD50	35 mg/kg (rat)
		LC50	19000 mg/l (96h) (rainbow trout)
Calcium Carbonate 1317-65-3	**Oral**	LD50	>2000 mg/kg (rat)
	Inhalation	LC50	>3 mg/L/4hr. (rat)
	Dermal	LD50	>2000 mg/kg (rat)
Chromium 7440-47-3	**Oral**	LD50	19.8 mg/kg (rat) (highly toxic)
Calcium Fluoride 7789-75-5	**Oral**	LD50	>2000 mg/kg (rat)
	Inhalation	LC50	>5070 mg/m3/4 hr. (rat)
Manganese 7439-96-5	**Oral**	LD50	9000 mg/kg (rat)
Nickel 7440-02-0	**Oral**	LD50	>9000 mg/kg (rat)
	Inhalation	LC50	>10.2 mg/L/1 hr. (rat)
Titanium Dioxide 13463-67-7	**Oral**	LD50	>10000 mg/kg (rat)
	Dermal	LD50	>10000 mg/kg (rabbit)
Iron 7439-89-6	**Oral**	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.

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.

SAFETY DATA SHEET

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.

Ingredient Name	Disclosure Threshold
Chromium	1.0 (Metal)
Magnesium	5 mg/m3
Nickel	1 mg/m3

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