

SAFETY DATA SHEET (SDS)

STAINLESS STEEL COVERED ELECTRODES



Section 1 : Product Identification

Supplier's Name : Exocor Ltd.
Address : 271 Ridley Road, St. Catharines, ON L2S 0B3
Canada
Emergency Phone No. : 888-317-2209
Information Phone No. : 888-317-2209 Fax : 855-317-2209
Product Specification : AWS A5.4 / ASME SFA 5.4
Application : Shielded Metal Arc Welding (Covered Electrodes)
Product Trade Name : EXECUTIVE

E307-16	E308-16	E308H-16	E308L-16	E309-16	E309H-16
E309L-16/17	E309Mo-16	E309LMo-16	E310-16	E312-16	E316-16
E316H-16	E316L-16/17	E317-16	E317L-16	E318-16	E347-16
E347H-16	E385-16	E410-16	E410NiMo-16	E630-16	E16-8-2-16
E2209-16 /17	E2594-16	E308L-17	E309L-17	E316L-17	

Section 2 : Hazardous Identification

Stainless steel covered electrodes are normally not considered hazardous as shipped. Gloves should be worn when handling to prevent contaminating hands with product dust. These products contain nickel, which is classified as toxic by prolonged inhalation, a skin sensitizer and a suspect carcinogen. Nickel powder is harmful for the environment. Some of these products contain cryolite. Cryolite is classified as toxic and dangerous for the environment. 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 not hazard but should be avoidable 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. Overexposure to fumes and gases from welding can be dangerous to health. Watch out for spatter, hot metal and slag. It may cause skin burn and cause fire. Arc rays can injure eyes and burn skin. Electrode shock can kill. Avoid touching live electrical parts.

Section 3 : Composition/Information on Ingredients

The following products are preparations of core wire with extruded coating.

INGREDIENT	CAS NO.	EINECS#
Iron Fe	7439-89-6	231-096-4
Molybdenum Mo	7439-98-7	231-107-2
Manganese Mn	7439-96-5	231-105-1
Nickel Ni	7440-02-0	231-111-4
Silicon Si	7440-21-3	231-130-8
Copper Cu	7440-50-8	231-159-6
Carbon C	7440-44-0	231-153-3
Chromium Cr	7440-47-3	231-157-5
Tungsten W	7440-33-7	231-143-9
Vanadium V	7440-62-2	231-171-1

Cobalt	Co	7440-48-4	231-158-0
Niobium	Nb	7440-03-1	231-113-5
Tantalum	Ta	7440-25-7	231-158-0
Titanium	Ti	7440-32-6	231-142-3

Chemical Composition Percent by Weight

AWS Classification -16, -17	C	Cr	Ni	Mo	Nb (Cb) plus Ta	Mn	Si	P	S	N	Cu
E307	0.04-0.14	18.0-21.5	9.0-10.7	0.5-1.5	-	3.30-4.75	1.00	0.04	0.03	-	0.75
E308	0.08	18.0-21.0	9.0-11.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E308H	0.04-0.08	18.-21.0	9.0-11.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E308L	0.04	18.0-21.0	9.0-11.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E309	0.12	22.0-25.0	12.0-14.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E309H	0.04-0.15	22.0-25.0	12.0-14.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E309L	0.04	22.0-25.0	12.0-14.0	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E309Mo	0.12	22.0-25.0	12.0-14.0	2.0-3.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E309LMo	0.04	22.0-25.0	12.0-14.0	2.0-3.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E310	0.08-0.15	25.0-28.0	20.0-22.5	0.75	-	1.0-2.5	0.75	0.03	0.03	-	0.75
E312	0.15	28.0-32.0	8.0-10.5	0.75	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E316	0.08	17.0-20.0	11.0-14.0	2.0-3.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E316H	0.04-0.08	17.0-20.0	11.0-14.0	2.0-3.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E316L	0.04	17.0-20.0	11.0-14.0	2.0-3.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E317	0.08	18.0-21.0	12.0-14.0	3.0-4.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E317L	0.04	18.0-21.0	12.0-14.0	3.0-4.0	-	0.5-2.5	1.00	0.04	0.03	-	0.75
E318	0.08	17.0-21.0	11.0-14.0	2.0-3.0	6xC min. to 1.00 max.	0.5-2.5	1.00	0.04	0.03	-	0.75
E347	0.08	18.0-21.0	8.0-10.0	0.75	8xC min. to 1.00 max.	0.5-2.5	1.00	0.04	0.03	-	0.75
E347H	0.04-0.08	18.0-21.0	8.0-10.0	0.75	8xC min. to 1.00 max.	0.5-2.5	1.00	0.04	0.03	-	0.75
E385	0.03	19.5-21.5	24.0-26.0	4.2-5.2	-	1.0-2.5	0.90	0.03	0.03	-	1.2-2.0
E410	0.12	11.0-13.5	0.7	0.75	-	1.0	0.9	0.04	0.03	-	0.75
E410NiMo	0.06	11.0-12.5	4.0-5.0	0.4-0.7	-	1.0	0.9	0.04	0.03	-	0.75
E630	0.05	16.0-16.75	4.5-5.0	0.75	0.15-0.30	0.25-0.75	0.75	0.04	0.03	-	3.25-4.00
E16-8-2	0.10-	14.5-16.5	7.5-9.5	1.0-2.0	-	0.5-2.5	0.60	0.03	0.03	-	0.75
E2209	0.04	21.5-23.5	8.5-10.5	2.5-3.5	-	0.5-2.0	1.0	0.04	0.03	0.08-0.20	0.75
E2594	0.04	24.0-27.0	8.0-10.5	3.5-4.5	-	0.5-2.0	1.0	0.04	0.03	0.20-0.30	0.75

Flux coating listed below – not included in above weld metal

Chemical Identity	CAS NO.	EINECS#
Calcium Carbonate	1317-65-3	215-279-6
Potassium Silicate	1312-76-1	233-001-1
Calcium Fluoride	7789-75-5	232-188-7
Sodium Silicate	1344-09-8	239-981-7
Mica	12001-26-2	215-479-3
Titanium Dioxide	13463-67-7	236-675-5
Feldspar	68476-25-5	270-666-7
Potassium Oxide	12136-45-7	235-227-6
Quartz	14808-60-7	238-878-4
Bentonite	1302-78-9	215-108-5

Other elements or ingredients may be present but in quantities less than 1% to reporting requirement of

Section 4 : First-Aid Measures

- Eye Contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor and seek medical advice if irritation persists.
- Skin Contact : If irritation develops, wash skin thoroughly with soap and water. Seek medical attention if necessary.
- Inhalation : If breathing is difficult, remove to refresh air and keep at rest in a position comfortable for breathing. Call

a physician if symptoms occur.

Ingestion : If significant amounts of dust are ingested consult a physician.

Most Important Symptoms/Effects, Acute and Delayed:

Inhalation of vapors may cause irritation of the respiratory system in very susceptible persons. It may cause irritations, difficulty in breathing, coughing or wheezing. May cause allergic skin reactions.

Section 5 : Fire Fighting Measures

No specific recommendations for welding consumables. Welding arc and sparks can ignite combustible and flammable

Extinguishing Media : Carbon dioxide (CO₂), powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

Fire and Explosion Hazards : None.

Special Firefighting Procedures : Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

Section 6 : Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Skin contact should be avoided to prevent possible allergic reactions.

Environmental Precautions: Try to prevent the material from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up: Not applicable. Avoid inhalation of dusts.

Section 7 : Handling and Storage

Precautions of Safe Handling : Ensure adequate ventilation for the welder and others. Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. Remove all flammable materials and liquids before welding. Avoid breathing metal fumes and/or dust.

Conditions for Safe Storage : Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

Incompatible Products : Store away from acids and incompatible materials.

Section 8 : Exposure Controls/Personal Protection

Avoid exposure to welding fumes, radiation, spatter, electrical 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.

Use respirator or air supplied respirator when welding 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.

The following limits can be used as guidance. For Keep There are no exposure limits for stainless steel wire. The exposure limit for iron-containing fumes has been established as 5 mg/m³ with ACGIH's TWA. The individual complex compounds with the fume away have lower exposure limits that then general fume.

IMPORTANT: This section covers the materials from which this product is manufactured. CAS Number shown is representative for the ingredients listed.

INGREDIENT	CAS NO	EINECS#	OSHA/PEL (mg/m ³)	ACGIH/TLV (mg/m ³)
Iron (Fe)	7439-89-6	231-096-4	10	5 (Resp)
Carbon (C)	7440-44-0	231-153-3	10 (TOTAL) 2(Resp)	15 (TOTAL) 5 (Resp)
Manganese (Mn)	7439-96-5	231-105-1	1, 3.0**, 5*	0.20 (Resp) 0.1***
Silicon (Si)	7440-21-3	231-130-8	15 (dust) 5 (Resp)	WITHDRAWN
Copper (Cu)	7440-50-8	231-159-6	1 (dust) 0.1 (fume)	1 (dust) 0.2 (fume)
Chromium (Cr)	7440-47-3	231-157-5	1 (metal) 0.5 (Cr III) 0.005 (Cr VI)	0.5 (metal) 0.5 (Cr III) 0.05 (Cr VI) ^(SC) 0.01 (Cr VI)
Nickel (Ni)	7440-02-0	231-111-4	1	1.5 (inhalable fraction)
Tantalum	7440-25-7	231-125-5	5.0	5.0, 10.0**
Niobium	7440-03-1	2321-113-5	N/A	N/A
Titanium (Ti)	7440-32-6	232-142-3	15 (total particulate) 5 (Resp)	10, 20**
Cobalt	7440-48-4	231-158-0	0.1	0.02
Tungsten (W)	7440-33-7	2331-143-9	5.0, 10.0**	5.0, 10.0**
Vanadium (V)	7440-62-2	231-171-1	0.05 as V ₂ O ₅	0.5 * as V ₂ O ₅
Molybdenum (Mo)	7439-98-7	231-107-2	15 (dust), 5 ^(SC)	10***, 3 (Resp), 0.5 (SC)
Potassium Silicate	1312-76-1	215-199-1	N/A	N/A
Sodium Silicate	1344-09-8	239-981-7	N/A	N/A
Bentonite	1302-78-9	215-108-5	N/A	NA
Calcium Carbonate	1317-65-3	215-279-6	15 (total dust) 5 (Resp)	3 (Resp)
Calcium Fluoride	7789-75-5	232-188-7	2.5	2.5
Mica	12001-26-2	215-479-3	2, 3 (Resp) (dust)	3 (Resp)
Titanium Dioxide	13463-67-7	236-675-5	15 (total dust)	10
Potassium Oxide	12136-45-7	235-227-6	10 (total particulate) 5 (Resp)	15 (total dust) 3 (Resp)
Feldspar	68476-25-5	270-666-7	N/A	N/A
Carbon Dioxide	124-38-9	204-696-9	5,000	5,000, 30,000***
Carbon Monoxide	630-8-0	211-128-3	50	25
Nitrogen Dioxide	10102-44-0	233-272-6	5	0.2
Ozone	10028-15-6	233-069-2	0.1	0.05
Quartz	14808-60-7	238-878-4	0.3 (total dust)	0.025 (Resp)

ACGIH BEL BIOLOGICAL EXPOSURE LIMITS: FLUORIDES in urine (creatinine) Prior to shift 3 mg/g & End of shift 10 mg/g

Other elements or ingredients may be present but in quantities much less than 1%. (1) Subject to reporting requirements of Section 302, 304, 311, 312, and 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40CFR 370 and 372; (Resp) = Respiratory/ Respiration; (C) TLV & PEL for water soluble Cr. III and Cr. VI, Welding and cutting of products that contain Chromium may produce hexavalent chromium and YOU should read and follow OSHA's final rules Fed Register #:71:10099-10385 dated 02-28-2006. Occupational Safety and Health Administration 29 CFR 1910.1000 Permissible Exposure Limit (PEL). American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV[R]). *Ceiling Limit**Short Term Exposure Limit***Inhalable fraction (SC) = Soluble compounds ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits used a guideline in control for health hazards but not an indication of safe and dangerous exposure limits TLV - Threshold Limit Value - an airborne concentration of a substance, which represents conditions under which it is generally believed that nearly all workers, may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour & BEI - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.OSHA - U.S. Occupational Safety and Health Administration. PEL - Permissible Exposure Limit - this exposure value means the same as a TLV, except that it is limits guideline by OSHA.

Eye Protection: Wear a helmet or face shield with a filter lens shade number 12-14 or darker for arc welding. Shield other workers by providing screens and flash goggles. Use face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting").

Protective Clothing: Wear approved head, hand and body protection, which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. This would include wearing welder's gloves and a protective face shield and may include arm protectors, apron, hats, shoulder protection, as well as dark substantial clothing. Welders should be trained not to allow electrically live parts to contact the skin or wet clothing and gloves. The welders should insulate themselves from the work and ground.

Ventilation: Use plenty of ventilation and/or local exhaust at the arc, to keep the fumes and gases below the threshold limit value within the worker's breathing zone and the general work area. Welders should be advised to keep their head out of the fumes.

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in a confined space or general work area where local exhaust and/or ventilation does not keep exposure below the threshold limit value.

HYGIENE/ WORK PRACTICES: With all chemicals/materials, avoid getting these products ON YOU or IN YOU. Wash hands after handling these products. Do not eat or drink while handling these products. Use ventilation and other engineering controls to minimize potential exposure to these products.

Section 9 : Physical and Chemical Properties

Physical	Rod	Appearance	Solid metal wire with flux coating
Odor	Odorless	Odor Threshold	Not applicable
pH	Not applicable	Melting Point	Not applicable
Boiling Point	Not applicable	Flash Point	Not applicable
Evaporation Rate	Not applicable	Flammability	Not auto-flammable
Upper Flammable Limit	Not applicable	Lower Flammable Limit	Not applicable
Vapor Pressure	Not applicable	Vapor Density	Not applicable
Relative Density	Not applicable	Specific gravity	Not applicable
Solubility	Insoluble	Partition Coefficient	No data
Auto-ignition Temp	Not applicable	Decomposition Temp	No data
Viscosity	Not applicable	Other Information	Not applicable

Section 10 : Stability and Reactivity

- Reactivity : Contact with chemical substances like acids or strong bases could cause generation of gas.
- Chemical Stability : Stable under normal conditions of transport, storage and use for solid formed product.
- Possibility of Hazardous Reactions : Hazardous polymerization will not occur.
- Condition to Avoid : None under normal conditions.
- Incompatible Material : Oxidizers, reacts with strong acids to form explosive hydrogen gas.
- Hazardous Decomposition Products : When these products are used in a welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in Section 3 and those from the base metal and coating. The amount of fumes generated from manual metal arc varies with welding parameters and dimensions but is generally no more than 3 to 13 g/kg consumable. Fumes from these products may contain compounds of the following chemical elements: Fe, O, Mn, Cr, Ni, F, Na, Si, K, Ca, Al, Cu, Mo, Mg, and Ti. The rest is not analyzed, according to available standards.

Section 11 : Toxicological Information

Oral/Dermal/inhalation:

Iron: (Human-child); TDL_o: 77 mg/kg. Oral (rat); LD₅₀:30 gm/kg. Intraperitoneal (rabbit); LDLo: 20 mg/kg. Oral (guinea pig); LD₅₀:20 gm/kg. Oral (rat); TDL_o: 63 gm/kg/6W-C. Inhalation (rat); 250 mg/m³/6H/4W-I. Intratracheal (rat); TDL_o: 450 mg/kg/15W-I. Silicon: Acute oral toxicity (LD₅₀): 3160 mg/kg [Rat]. Copper: Acute oral LD₅₀:481 mg/kg (rat); Cobalt: Acute Dermal LD₅₀ :> 2000 mg/kg (rat) Acute Inhalation 4hours LD₅₀:165 mg/kg (rat); Chromium (IV) Acute oral toxicity LD 50 (Rat): 27-59 mg/kg Inhalation (Rat 4h): 33-70 mg/m³. Manganese: Acute oral toxicity (LD₅₀): 9000 mg/kg [Rat]. Fluoride (as F): Acute oral LD₅₀:4250 mg/kg (rat); Sodium Silicate: Acute oral LD₅₀:1.1 g/kg (rat); Potassium Silicate: Acute oral LD₅₀:1500 g/kg (rat) Inhalation LC₅₀ (rat) >2.06 g/m³ Dermal LD₅₀ (rat) >5000 mg/kg; Calcium Carbonate: Acute oral LD₅₀:6450 mg/kg (rat);

Skin corrosion or irritation/Serious eye damage or irritation/Respiratory or skin sensitization/Germ cell mutagenicity/ Reproductive toxicity/Specific target organ toxicity—single exposure/Specific target organ toxicity—repeated exposure: Not classified

Carcinogenicity: Arc Rays can injure eyes and burn skin. Skin cancer has been reported.

Information on the likely routes of exposures: Ingestion is not a likely route of exposure for this product or expected under normal use. If swallowed call physician immediately! Do not induce vomiting unless directed by medical personnel. Rinse mouth with water if person is conscious. Never give fluids or induce vomiting if person is unconscious, having convulsions, or not breathing.

Inhalation of welding fumes and gases can be dangerous to your health.

Skin/Eye Contact: Arc Rays can injure eyes and burn skin. Skin cancer has been reported.

International Agency for Research on Cancer IARC-has classified welding fumes, Cobalt & Nickel as a possible carcinogenic to humans (Group 2B). Quartz & Chromium (IV) evaluation as carcinogenic to humans (Group1). Calcium Fluoride & Chromium oxides evaluation, not classified as to carcinogenicity to humans (Group 3).

National Toxicology Program (NTP) list Nickel with Reasonably Anticipated to be a Human Carcinogen; Quartz & Chromium (IV) known to be human carcinogen.

OSHA Specifically Regulated Substances Chromium (IV)

Symptoms related to physical, chemical and toxicological characteristics: Inhalation: Chromium (IV) and compounds pose a cancer risk to humans; liver damage, allergic and skin rash have been reported. Nickel and compounds pose a respiratory cancer risk, and may give skin itch to dermatitis. Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, dryness or irritation of nose, throat, or eyes. Pre-existing respiratory issues may be aggregated. Long-term (chronic) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and is believed to affect pulmonary function. Manganese and Manganese compounds above safe exposure limits can affect or cause irreversible damage to the central nervous system, including the brain: symptoms may result in impaired speech and movement, lack of energy, stiffness in legs, feet, toes, muscular weakness as well as psychological disturbances. Reports of bronchitis and lung fibrosis have also been noted. Copper and copper alloy compounds has effects with GASTRO-INTESTINAL system.

Delayed and immediate effects and also chronic effects from short and long term exposure: There are no immediate health hazards associated with the wire or rod form of this product. Skin, respiratory, pancreas, and liver disorders may be aggravated by prolonged over-exposures to the dusts or fumes generated by these products. Pre-existing respiratory issues may be aggregated. Long-term (chronic) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and is believed to affect pulmonary function. Manganese and Manganese compounds above safe exposure limits can affect or cause irreversible damage to the central nervous system, including the brain: symptoms may result in impaired speech and movement, lack of energy, stiffness in legs, feet, toes, muscular weakness as well as psychological disturbances. Reports of bronchitis and lung fibrosis have also been noted. Treat symptoms and eliminate overexposure.

Other information during use: Inhalation acute toxicity: Carbon dioxide LC Lo (Human, 5 min): 90000 ppm, Carbon monoxide LC 50 (Rat, 4 h): 1,300 mg/l, Nitrogen dioxide LC 50 (Rat, 4 h): 88 ppm, Ozone LC Lo (Human, 30 min): 50 ppm, Chromium (IV) LC 50 (Rat, 4 h): 33-70 mg/m³

Section 12 : Ecological Information

The welding process an effect the environment if fume is released directly into the atmosphere. Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding

process. Avoid exposure to conditions that could lead to accumulation in soils or ground water.

COMPOINT	TOXICTY TO FISH	TOXCITY TO ALGAE	TOXICITY TO MICROORGANISMS
Iron	LC ₅₀ Common carp 96 hr. 0.56 mg/l	-	-
Chromium	LC ₅₀ Fathead minnow 96 hr. 10-100 mg/l	-	-
Nickel	LC ₅₀ Fathead minnow 96 hr. 1-3 mg/l	EC ₅₀ Freshwater Algae 72 hr. 0.18 mg/l	ECSO Water Flea 48 hr. 1.0 mg/l

Persistence and Degradability : Not applicable

Bioaccumulative potential : No data available

Mobility in Soil : No applicable

Other Adverse Effects : Not applicable

Section 13 : Disposal Consideration

Waste Disposal Methods : Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other : Residues from welding consumables and processes could degrade and accumulate in the ground water. Welding slag from these products of the electrode typically contain mainly the following originating from the coating of the electrode: Fe, O, Mn, Cr, Ni, F, Na, Si, K, Ca, Al, Cu, Mo, Mg and Ti.

Section 14 : Transportations Information

General Shipping Information : No international regulations or restrictions are applicable

Shipping Name and Description : N/A

UN Number : N/A

Hazard Code : N/A

Packing Group/Risk Group : N/A

Section 15 : Regulatory Information

SARA Threshold Planning Quantity : There are no specific Threshold Planning Quantities for the components of the material. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

TSCA Inventory Status : The components for this material are listed on the Toxic Substances Control Act Inventory.

Cercla Reportable Quantity (RQ) : RQ's for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are: Chromium = 5,000 lbs (2,270 kg); Copper = 5,000 lbs (2,270 kg); Nickel = 500 lbs (45 kg).

California (Proposition 65) : The Chromium (VI) component of this material is known in the State of California to cause cancer. The Nickel component of this material is known in the State of California to cause cancer. The Cobalt component of this material is known in the State of California to cause cancer. Arsenic (inorganic), Cadmium and Lead are possible trace elements known in the State of California to cause cancer.

Reference to key literature and data sources

Regulation (EC) No 1907/2006 of the European Parliament and of the council, (REACH).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council
EH40/2005 Workplace exposure limits
The Waste regulations 2011 No. 988
C&L Inventory database
Annex VI CLP Regulation (EC) 1272/2008

Section 16 : Other Information

This Safety Data Sheet is established to comply with the Hazard Communication Standard (HCS) which supersedes former MSDS.

The information herein was obtained from recognized technical sources and is believed to be reliable, but cannot be warranted as to its accuracy or sufficiently. We assume no liability in connection with any use of this information and no warranty, expressed or implied is given since actual conditions of use are outside our control.

Date : April 2016