

# SAFETY DATA SHEET

## CE 002 Stainless steel Covered Electrodes



Version number: 1  
Replaces SDS: 2011-12-23  
Issued: 2014-01-21

Not for sale in the USA

### Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier

**Trade name** Matador

**Article-no**

Product/Article	Diameter(mm)	Packaging (kg)	Part Number
Matador SS 316L	4.0	20	35007
Matador SS 312L	3.2	20	35286
Matador SS 308L	3.2	20	35009
Matador SS 308L	4.0	20	35018
Matador SS 309L	2.4	20	35019
Matador SS 309L	3.2	20	35282

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Article type** SMAW Stainless steel covered electrodes Classification: AWS SFA 5.9 (or other)

**Use** Electric arc welding

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

**Supplier** Linde Philippines, Inc.

**Street address** 30F Wynsum Corporate Plaza # 22 F. Ortigas Jr. Avenue  
Ortigas Center, Pasig City  
Philippines

**Telephone** +63 (2) 883 9000

**Fax** +63 (2) 883 9000

**Email** customerservice.ph@linde.com

#### 1.4 Emergency telephone number

**Available outside office hours** Yes

**Emergency phone number** +63 (2) 702 7500

Other

**Additional product information** Web site: [www.linde.com.ph](http://www.linde.com.ph) (refer to website used in packaging)

### Section 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

Classification according to the Regulation (EC) 1271/2008 [CLP] applicable

### 2.2 Label elements

Not applicable

### 2.3 Other hazards

This product contains: Nickel as classified as sensitising and limited evidence of carcinogenic effect. The form of this product does not contribute to a hazard classification of the product.

When the product is used in the welding process the most important hazards are:

Overexposure to fumes and gases from welding can be dangerous to health.

Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire.

Arc rays can injure eyes and burn skin. Electric shock can kill. Avoid touching live electrical parts.

## Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substances

This product is a mixture and please refer to Section 3.2

### 3.2 Mixtures

Stainless steel core	%C	%Si	%Mn	%Cr	%Ni	%Mo	%Fe
Ranges	.01-.15	1.00max	0.3-2.5	13-32	0-22	0-3.0	balance

Flux coating	E308, 309, 310	E309MO, 316, 317	E309Nb, 347	E410	CAS No.
Limestone and/or Calcium Carbonate	0-20	0-20	0-20	0-20	1317-65-3
Mica (total inhalable dust) (respirable dust)	0-12	0-12	0-12	0-12	12001-26-2
Kaolin (respirable dust)	0-15	0-15	0-15	0-15	1332-58-7
Cellulose (total inhalable dust) (respirable dust)	0-2	0-2	0-2	-	9004-34-6
Mineral Silicates (total inhalable dust) (respirable dust)	0-30	0-30	0-30	0-15	1332-58-7 1344-95-2
Inorganic Fluorides (as F)	0-6	0-6	0-6	0-5	16984-48-8

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Manganese and its Inorganic compounds (as Mn)	0-5	0-5	0-5	0-5	7439-96-5 and others
Aluminium (total inhalable dust) (respirable dust)	0-2	0-2	0-2	0-2	7429-90-5
Rutile/ Titanium oxide (total inhalable dust) (respirable dust)	0-45	0-45	0-45	0-45	13463-67-7
Nickel and its inorganic compounds (soluble, as Ni) (insoluble, as Ni)	0-15	0-15	0-15	0-15	7440-02-0
Silicon and Silicon alloys, (as Si) (total inhalable dust) (respirable dust)	0-5	0-5	0-5	0-5	7440-21-3
Molybdenum compounds (as Mo) (soluble compounds) (insoluble compounds)	-	0-5	-	-	7439-98-7
Chromium Chromium III compounds Chromium VI compounds	0-30	0-30	0-30	0-30	7440-47-3
Antimony oxide	0-2	0-2	0-2	0-2	7440-36-0
Silicate Binders	0-25	0-25	0-25	0-25	1344-09-8
Others					

### Section 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>Inhalation</b>	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.
<b>Skin contact</b>	Burns should be treated by a doctor.
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Burns from radiation, see doctor.
<b>Ingestion</b>	Contact a doctor if more than an insignificant amount has been swallowed.

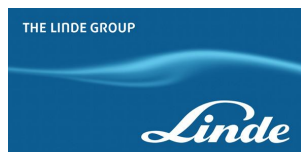
#### 4.2 Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.
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#### 4.3 Indication of any immediate medical attention and special treatment needed

Not applicable

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### Section 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) , powder or diffuse jet of water. In case of major fire: Extinguish fire with diffuse jet of water or foam.

#### 5.2 Special hazards arising from the substance or mixture

Not applicable

#### 5.3 Advice for fire fighters

##### Special protective equipment for fire fighters

Wear self contained breathing apparatus

### Section 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 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.

#### 6.2 Environmental precautions

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

#### 6.3 Methods and material for containment and cleaning up

Not applicable

#### 6.4 Reference to other sections

For *Personal protection* see section 8. For *Disposal* see section 13. For *Environmental precautions* see section 12. For *Precautions for safe handling* see 7.1.

### Section 7. HANDLING AND STORAGE

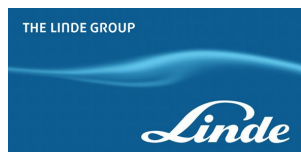
#### 7.1 Precautions for safe handling

##### Preventive handling precautions

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

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### General hygiene

all flammable materials and liquids before welding.

Wash hands before breaks and immediately after handling the product.

### 7.2 Conditions for safe storage, including any incompatibilities

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.

### 7.3 Specific end use(s)

Welding process.

## Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Welding fume component	CAS No.	ES-TWA	ES-STEL
Total welding fume (particulate)	-	5	
Iron oxide fume (as Fe)	1309-37-1	5	10
Manganese and its inorganic compounds (as Mn)	7439-96-5	1	3
Silica, amorphous (total inhalable dust)	-	6	
(respirable dust)		2.4	
Magnesium oxide (as Mg) (total inhalable dust)	1309-48-4	10	
(fume and respirable dust)		4	10
Titanium dioxide (total inhalable dust)	13463-67-7	10	
(respirable dust)		4	
Calcium Oxide	1305-78-8	2	
Calcium Silicate (total inhalable dust)	1344-95-2	10	
(respirable dust)		4	
Fluoride, inorganic (as F)	16984-48-8	2.5	
Nitrogen dioxide (NO <sub>2</sub> )	10102-44-0	3ppm	5ppm
Ozone (O <sub>3</sub> )	10028-15-6	0.2 ppm	
Nitrogen monoxide (NO)	10102-43-9	25ppm	35ppm

### 8.2 Exposure controls

*Environmental Exposure Control – Refer to Section 6 of this SDS*

### Technical precaution measures

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<b>Eye / face protection</b>	Wear eye protection appropriate for welding.
<b>Safety gloves</b>	Skin contact should be avoided to prevent possible allergic reactions.
<b>Other skin protection</b>	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
<b>Respiratory protection</b>	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

### Section 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<b>Appearance, colour</b>	Grey
<b>Appearance, physical state</b>	Rod
<b>Auto-ignition temperature</b>	Not applicable
<b>Auto-inflammability</b>	Not auto-flammable
<b>Decomposition temperature</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Explosive properties</b>	Not explosive
<b>Flammability (solid gas)</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Form</b>	Metal wire with flux coating
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Melting point / Freezing point</b>	Not applicable
<b>Odour</b>	Odourless
<b>Odour threshold</b>	Not applicable
<b>Oxidising properties</b>	Not applicable
<b>Partition coefficient: n-octanol / water</b>	Not applicable
<b>pH value</b>	Not applicable
<b>Relative density</b>	Not applicable
<b>Solubility</b>	Not applicable
<b>Solubility in water</b>	Insoluble
<b>Upper / lower flammability or explosive limits</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Vapour pressure</b>	Not applicable
<b>Viscosity</b>	Not applicable

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### 9.2 Other information

Not applicable

Other

**Density** 7.96g/cm<sup>3</sup>

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable

### 10.2 Chemical stability

Stable at normal conditions.

### 10.3 Possibility of hazardous reactions

Not applicable

### 10.4 Conditions to avoid

None under normal conditions

### 10.5 Incompatible materials

Not applicable

### 10.6 Hazardous decomposition products

Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.

Welding fume component	CAS No.	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Aluminium oxide (Al)	1344-28-1	-	-	-	1.8 to 1.2
Barium (Ba)	7440-39-3	-	-	-	≤0.1
Bismuth oxide (Bi)	12640-40-3	-	-	-	≤0.1
Calcium (Ca)	1305-78-8	-	-	-	0.1 to 11.6
Cobalt oxide (Co)	1307-96-6	R22: Harmful if swallowed R43: May cause sensitisation by contact	Acute tox 4 (oral) Skin sens. 1	H302 H317	≤0.1



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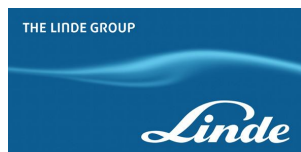


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Chromium III compounds (as Cr)	24613-89-6	R45: May cause cancer R35: Causes severe burns R43: May cause sensitisation by skin contact	Carc. 1B Skin Corr. 1A Skin Sens. 1	H350 H314 H317	≤0.1
Copper oxide (Cu)	1317-38-0	-	-	-	≤0.1
Iron oxide (Fe)	1332-37-2	-	-	-	11.9 to 54.9
Potassium (K)	7440-09-7	R34: Causes burns	Skin Corr. 1B	H314	0.6 to 23.8
Lithium (Li)	7439-93-2	R34: Causes burns	Skin Corr. 1B	H314	0.1 to 0.8
Magnesium oxide (Mg)	1309-48-4	-	-	-	0.1 to 5.3
Manganese (Mn)	7439-96-5	-	-	-	0.7 to 8.2
Molybdenum (Mo)	7439-98-7	Molybdenum trioxide R36/37: Irritating to eyes and respiratory system R40: Limited evidence of carcinogenic effect	Molybdenum trioxide Carc. 2 Eye Irrit. 2 STOT SE 3	H351 H319 H335	≤0.1
Sodium (Na)	7440-23-5	R34: Causes burns	Skin Corr. 1B	H314	0.5 to 8.7
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	0.1 to 0.2
Lead (Pb)	7439-92-1	-	-	-	0.1 to 1.8
Silicon (Si)	7440-21-3	-	-	-	2.1 to 16.3
Titanium dioxide (Ti)	13463-67-7	-	-	-	0.1 to 3.2
Vanadium (V)	7440-62-2	-	-	-	≤0.1
Zinc (Zn)	7440-66-6	-	-	-	0.1 to 3.5
Fluoride (F-)	16984-48-8	-	-	-	0.1 to 21.4

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The classification information above relates to the fume during use

Final Fume classification		
Classification	H phrase	Text
Acute Toxicity (Inhal): Category 3	H331	Toxic if inhaled
Acute Toxicity (Oral/Dermal): Category 4	H302/H312	Harmful if swallowed or in contact with skin
Skin corrosion/irritation: Category 1A	H314	Causes severe skin burns and eye damage
Skin sensitisation: Category 1	H317	May cause an allergic skin reaction
Respiratory sensitisation: Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Carcinogenicity: Category 1A	H350	May cause cancer
Mutagen: Category 1B	H340	May cause genetic defects
Reproductive toxicity: Category 2	H361f	Suspected of damaging fertility
Specific Target Organ Toxicity: Single exposure Category 3	H335	May cause respiratory irritation
Specific Target Organ Toxicity: Repeated exposure Category 2	H373	May cause damage to organs through prolonged or repeated exposure

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Analysis wt %	
Cr 3.2 to 8.3	Ni 0.2 to 1.3
Ca 0.5 to 1.9	Mn 1.9 to 4.7
Fe 3.1 to 8.1	Si 5.9 to 13.6
K 13.6 to 40.4	Ti 0.9 to 4.3
F- 7.1 to 18.2	Zn 0.1 to 3.5
Na 0.5 to 8.7	<b>Cr (VI) 2.6 to 5.5</b>

### Section 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied

When welding, fumes and gases generated can be dangerous to health.

<b>Acute toxicology</b>	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
<b>Irritation</b>	Not applicable
<b>Corrosive effects</b>	Not applicable
<b>Sensitisation</b>	May cause sensitisation by skin contact
<b>Mutagenicity</b>	Not applicable
<b>Carcinogenicity</b>	Welding fumes are possibly carcinogenic to humans
<b>Repeated dose toxicity</b>	Not applicable
<b>Reproductive toxicity</b>	Not applicable

### Section 12. ECOLOGICAL INFORMATION

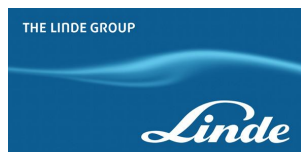
#### 12.1 Toxicity

The welding process can effect the environment if fume is released directly into the atmosphere. Residues from welding consumables could degrade and accumulate into soils and ground water.

<b>Aquatic</b>	Cr(VI) is suspected of being very toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment.
<b>Acute fish toxicity</b>	LC50 Fish 96h: Manganese: 2,91 mg/l

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### Acute algae toxicity

Aluminiumoxide: >100 mg/l Salmo trutta

IC50 Algae 72h:

Manganese: 0,55 mg/l

Aluminiumoxide: >100 mg/l Selenastrum capricornatum (green algae)

### Acute crustacean toxicity

EC50 Daphnia 48h:

Manganese: 5,2 mg/l

Aluminiumoxide: >100 mg/l Daphnia magna (Water flea)

### 12.2 Persistence and degradability

Not applicable

### 12.3 Bio accumulative potential

Bioconcentration factor (BCF):

Iron: 140000

Manganese: 59052

### 12.4 Mobility in Soil

Not applicable

### 12.5 Results of PBT and vPvB assessment

Not applicable

### 12.6 Other adverse effects

Not applicable

## Section 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Disposal considerations

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

#### Waste code

12 01 13 – welding waste

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

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	Not applicable
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable
Other	
<b>Dangerous goods</b>	No

### Section 15. REGULATORY INFORMATION

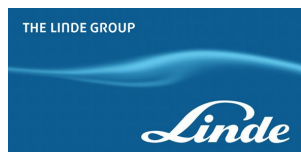
15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.	
<b>EU regulations</b>	The product does not need to be labelled in accordance with EC directives or respective national laws.
<b>National regulations</b>	Refer to RULE 1100: GAS AND ELECTRIC WELDING AND CUTTING OPERATIONS, OCCUPATIONAL SAFETY AND HEALTH STANDARDS (AS AMENDED, 1989)
15.2 Chemical safety assessment	Not applicable

### Section 16. OTHER INFORMATION

<b>References to key literature and data sources</b>	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.
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### Phrase meaning

EH40/2005 Workplace exposure limits.

The Waste regulations 2011 No.988

C&L Inventory database

Annex VI CLP Regulation (EC) 1272/2008

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350	May cause cancer
H340	May cause genetic defects
H361f	Suspected of damaging fertility
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

Other

### Manufacturer's notes

*Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.*

End of document