

SAFETY DATA SHEET

CE 002 Stainless Steel Covered Electrodes



Version number: 06
Replaces SDS: 2009-11-23
Issued: 2015-02-05

Not for sale in the USA

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

1.1 Product identifier

Trade name Staincraft 308L, Staincraft 308-16, Staincraft 316L, Staincraft 309 Mo

Article-no

| Product/Article | Diameter(mm) | Packaging (kg) | Part Number |
|------------------|--------------|----------------|-------------|
| Staincraft316L | 2.5 | 1 | YBD 1813202 |
| Staincraft316L | 3.2 | 2 | YBD 1813203 |
| Staincraft316L | 4.0 | 2 | YBD 1813204 |
| Staincraft308L | 2.5 | 1 | YBD 1813302 |
| Staincraft308L | 3.2 | 2 | YBD 1813303 |
| Staincraft308L | 4.0 | 2 | YBD 1813304 |
| Staincraft308-16 | 2.5 | 1 | YBD 1813306 |
| Staincraft308-16 | 3.2 | 2 | YBD 1813307 |
| Staincraft308-16 | 4.0 | 2 | YBD 1813308 |
| Staincraft 309Mo | 2.5 | 1 | YBD1813602 |
| Staincraft 309Mo | 3.2 | 2 | YBD1813603 |
| Staincraft 309Mo | 4.0 | 2 | YBD1813604 |

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

Article type SMAW Un- and Low-alloyed electrodes Classification: AWS SFA 5.1/5.5 or other

Use Electric arc welding

1.3 Details of the supplier of the safety data sheet

Supplier Linde Bangladesh Limited

Street address Corporate Office, 285 Tejgaon Industrial Area
Dhaka-1208
Bangladesh.

Telephone +880.2.8870322-27

Fax +880.2.8870336/+880.2.8870329

Email customer.service.bd@linde.com

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1.4 Emergency telephone number

Available outside office hours Yes

Emergency phone number +880.1711.404191

Other

Additional product information

Web site: www.linde-gas.com.bd

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

2.2 Label elements

Not applicable

2.3 Other hazards

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.

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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 |
|--|----------------------|------------------------|----------------|-------|----------------------|-------|---------|
| Typical | 0.01-0.15 | 1.0 Max | 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 | - | <10 | 20-30 | <10 | 1317-65-3 | | |
| Magnesite (total inhalable dust) (respirable dust) | 5-10 | <5 | - | - | 546-93-0 | | |
| Cellulose (total inhalable dust) (respirable dust) | 25-60 | <15 | - | - | 9004-34-6 | | |
| Iron Oxides (as Fe) | <10 | <10 | <10 | <10 | 1309-37-6 | | |
| Inorganic Fluorides (as F) | - | <10 | 10-30 | <10 | 16984-48-8 | | |
| Iron powder | - | <10 | 10-35 | 10-60 | 7439-89-6 | | |
| Manganese and its Inorganic compounds (as Mn) | 5-15 | 5-15 | <15 | <15 | 7439-96-5 and others | | |
| Rutile/Titanium Dioxide (total inhalable dust) (respirable dust) | 10-35 | 15-60 | <10 | 10-30 | 13463-67-7 | | |
| Silicon and Silicon Alloys, (as Si) | - | - | <5 | <5 | 7440-21-3 | | |
| Silicate Binders | <5 | <5 | <5 | <5 | 1344-09-8 | | |
| Mica (total inhalable dust) (respirable dust) | <5 | <20 | <5 | <5 | 12001-26-2 | | |
| Quartz/Silica Respirable crystalline | <10 | <15 | 5-60 | <10 | 14808-60-7 | | |
| Kaolin (respirable dust) | - | <20 | - | <5 | 1332-58-7 | | |
| Other Mineral Silicates | 5-30 | 5-30 | 5-10 | 5-30 | 1332-58-7 | | |

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Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|---------------------|--|
| Inhalation | 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. |
| Skin contact | Burns should be treated by a doctor. |
| Eye contact | 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. |
| Ingestion | Contact a doctor if more than an insignificant amount has been swallowed. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|-------------------|---|
| Inhalation | Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons. |
|-------------------|---|

4.3 Indication of any immediate medical attention and special treatment needed

Not applicable

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

| | |
|-------------------------------------|--|
| Suitable extinguishing media | Carbon dioxide (CO ₂), 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

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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

Personal protection see section 8 and for disposal see section 13. Environmental precautions, paragraph 12. See also section 7 Precautions for safe handling.

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 all flammable materials and liquids before welding.

General hygiene

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.

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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 | |
| Manganese and its inorganic compounds (as Mn) | 7439-96-5 | 0.5 | |
| Silica, amorphous (total inhalable dust) | - | 6.0 | |
| (respirable dust) | | 2.4 | |
| Titanium dioxide (total inhalable dust) | 13463-67-7 | 10 | |
| (respirable dust) | | 2.4 | |
| 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 | |
| Chromium VI Compounds (as CR) | 1333-82-0 | 0.05 | |
| Chromium III Compounds (as Cr) | 24613-89-6 | 0.5 | |
| Nickel and its inorganic compounds (as Ni) | | | |
| Water soluble | 7440-02-0 | 0.1 | |
| Water insoluble | | 0.5 | |
| Molybdenum Compounds (as Mo) | | | |
| Soluble | 7439-98-7 | 5 | |
| Insoluble | | 10 | |
| Nitrogen dioxide (NO ₂) | 10102-44-0 | 0.5ppm ³ | |
| Ozone (O ₃) | 10028-15-6 | 0.2ppm ⁴ | |
| Nitrogen monoxide (NO) | 10102-43-9 | 0.5ppm ³ | |

8.2 Exposure controls

Environmental Exposure Control – Refer to Section 6 of this SDS

Technical precaution measures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.

Eye / face protection

Wear eye protection appropriate for welding.

Safety gloves

Skin contact should be avoided to prevent possible allergic reactions.

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| | |
|-------------------------------|---|
| Other skin protection | Wear body protection which helps to prevent injury from radiation, sparks and electric shock. |
| Respiratory protection | Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding. |

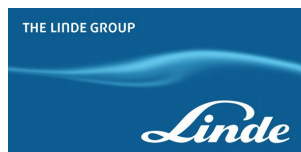
Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

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

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9.2 Other information

Not applicable

Other

Density 7.98g/cm³

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 |

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| | | | | | |
|--------------------------------|------------|--|---|------------------------------|--------------|
| 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 |
| 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 |

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| | | | | | |
|-----------------------|------------|---|-------------------------------------|----------------------|-------------|
| 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 |

| Final fume classification | | |
|--|----------|---|
| Classification | H phrase | Text |
| Skin corrosion/irritation: Category 1B | H314 | Causes severe skin burns and eye damage |
| Carcinogenicity: Category 1B | H350 | May cause cancer |

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The classification information above relates to the fume during use

Fume analysis: wt %

Al 0.1 to 1.2
Ca 0.1 to 11.6
Fe 11.9 to 54.9
K 0.6 to 23.8
Li 0.1 to 0.8
Mg 0.1 to 5.3
Na 0.5 to 8.7

Fume analysis: wt %

Ni 0.1 to 0.2
Pb 0.1 to 1.8
Si 2.1 to 16.3
Ti 0.1 to 3.2
Zn 0.1 to 3.5
F- 0.1 to 21.4

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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.

| | |
|-------------------------------|--|
| Acute toxicology | 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. |
| Irritation | Not applicable |
| Corrosive effects | Not applicable |
| Sensitisation | May cause sensitisation by skin contact |
| Mutagenicity | Not applicable |
| Carcinogenicity | Welding fumes are possibly carcinogenic to humans |
| Repeated dose toxicity | Not applicable |
| Reproductive toxicity | 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.

12.2 Persistence and degradability

Not applicable

12.3 Bio accumulative potential

Not available

12.4 Mobility in Soil

Not applicable

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

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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

None

Section 14. TRANSPORT INFORMATION

14.1 UN number

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

Dangerous goods

No

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Section 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.

EU regulations

The product does not need to be labelled in accordance with EC directives or respective national laws.

National regulations

None

15.2 Chemical safety assessment

Not applicable

Section 16. OTHER INFORMATION

References 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.

Annex VI CLP Regulation (EC) 1272/2008

Phrase meaning

H314 – Causes severe skin burns and eye damage

H350 – May cause cancer.

Other

Manufacturer's notes

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

End of document