



## SAFETY DATA SHEET

This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

### DC GOUGING COPPERCLAD ELECTRODES

Issued: 2016-04-01

Arcair - Air Arc Rods

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name** DC GOUGING COPPERCLAD ELECTRODES

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

Not applicable

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

**SDS created by** TDST

**Supplier** ESAB DENTON

**Street address** 2800 Airport Road  
Denton, TX 76207

**Telephone** 1-800-372-2123

**Email** sds.esab@esab.se

**Web site** www.esab.com

### 1.4. Emergency telephone number

**Emergency phone number** 1-800-372-2123

**Available outside office hours** No

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The product is not classified

### 2.2. Label elements

The product do not require labeling

### 2.3. Other hazards

When the product is used in the gouging process the most important hazards are: Overexposure to fumes and gases from gouging can be dangerous to health. Watch out for splatter, hot metal and slag. It may cause skin burn and cause fire. Excessive noise. 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

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No.	Concentration	Classification	R-phrase H-phrase
Graphite	7782-42-5 231-955-3 -	66 - 88%	- -	- -
Copper	7440-50-8 231-159-6 01-2119480154 - 42	10 - 30%	- -	- -
Carbon Black	1333-86-4 215-609-9 -	2 - 4%	- -	- -

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

No first aid measures should be required for the unused electrodes.

<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>	Flush skin with large amounts of water. If irritation develops and persists, get medical attention.
<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>	DO NOT induce vomiting unless directed to do so by a physician or poison control center.
<b>Information for doctors</b>	Get medical attention/advice if you feel unwell.

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

Not applicable

### 4.3. Indication of any immediate medical attention and special treatment needed

Not applicable



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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** use dry chemical, CO<sub>2</sub>, water spray or "alcohol" foam

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

Not applicable

### 5.3. Advice for firefighters

#### **Special protective equipment for fire-fighters**

No specific measures required for these electrodes prior to gouging.

Gouging should not be carried out in the presence of flammable materials, vapours, tanks, cisterns and pipes and other containers which have held flammable substances unless these have been checked and certified safe.

During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

## 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.



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## 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.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 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. Unless noted, all values are for 8 hour time weighted averages (TWA).

#### National occupational exposure limits

Ingredient	CAS no.	EC No.	Exposure limit mg/m <sup>3</sup> -ppm	Short-term exposure limit mg/m <sup>3</sup> -ppm	Remark	Source	Year
Copper	7440-50-8	231-159-6	0,1	-	- as Cu(fume)	OSHA	2016
Copper	7440-50-8	231-159-6	1	-	- as Cu(dust, mist)	OSHA	2016
Graphite	7782-42-5	231-955-3	1,5	-	-	OSHA	2016
Carbon Black	1333-86-4	215-609-9	3,5	-	-	OSHA	2016

### 8.2. Exposure controls

#### 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.

#### 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.



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## SECTION 9: Physical and chemical properties

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

**Appearance** Copper plating for the surface of the black carbon rod

**Appearance, colour** Not applicable

**Appearance, physical state** Not applicable

**Auto-ignition temperature** Not applicable

**Boiling point** Carbon 4027 degrees celsius, Copper 2927 degrees celsius

**Decomposition temperature** Not applicable

**Evaporation rate** Not applicable

**Explosive properties** Not applicable

**Flammability (solid, gas)** Not applicable

**Flash point** Not applicable

**Initial boiling point and boiling range** Not applicable

**Melting point** Carbon 3527 degrees celsius, Copper 1084 degrees celsius

**Melting point / freezing point** Not applicable

**Odour** Not applicable

**Odour threshold** Not applicable

**Oxidising properties** Not applicable

**Partition coefficient: n-octanol / water** Not applicable

**pH value** Not applicable

**Physical state** solid

**Relative density** Carbon 1.7g/cm<sup>3</sup>, Copper 8.9g/cm<sup>3</sup>

**Solubility** Not applicable

**Upper / lower flammability or explosive limits** Not applicable

**Vapour density** Not applicable

**Vapour pressure** Not applicable

**Viscosity** Not applicable

### 9.2. Other information



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Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** No hazards to be especially mentioned.

### 10.2. Chemical stability

**Chemical stability** Stable under the recommended storage and handling conditions prescribed. Hazardous polymerization will not occur. Incompatible materials and conditions to avoid are usually related to welding.

### 10.3. Possibility of hazardous reactions

Not applicable

### 10.4. Conditions to avoid

**Conditions to avoid** None under normal conditions

### 10.5. Incompatible materials

Not applicable

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material. Hazardous combustion products - Carbon oxides and other irritating/toxic fumes and smoke.



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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<b>Information on toxicological effects</b>	When welding, fumes and gases generated can be dangerous to health.
<b>Acute toxicity</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>Skin corrosion/irritation</b>	Not applicable
<b>Serious eye damage/irritation</b>	Not applicable
<b>Respiratory/skin sensitization</b>	May cause sensitisation by skin contact
<b>Germ cell mutagenicity</b>	Not applicable
<b>Genotoxicity</b>	Not applicable
<b>Carcinogenicity</b>	WARNING! This product contains or Produces a chemical known in the State of California to cause cancer. California Prop. 65
<b>Reproductive toxicity</b>	Not applicable
<b>STOT-single exposure</b>	Not applicable
<b>STOT-repeated exposure</b>	Not applicable
<b>Aspiration hazard</b>	Not applicable



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## SECTION 12: Ecological information

### 12.1. Toxicity

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

**Aquatic** not water endangering

### 12.2. Persistence and degradability

Not applicable

### 12.3. Bioaccumulative potential

Not applicable

### 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 management** Packaging and rod scrap should be disposed of as general waste or recycled. No special precautions are required for this product. Fume collected from extraction units should be disposed of in accordance with local regulations





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## 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 and the IBC Code

Not applicable

### Other

No special requirements are necessary in transporting these products



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## SECTION 15: Regulatory information

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

#### Other regulations, limitations and legal regulations

Canada: WHMIS classification: Class D; Division 2, Subdivision A - Canadian Environmental Protection Act (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

USA: 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.

CERCLA/SARA Title III Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs): Product is a solid solution in the form of a solid article.

- Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class - As shipped: Immediate In Use: Immediate delayed  
EPCRA/SARA Title III 313 Toxic Chemicals:

### 15.2. Chemical safety assessment

**Chemical safety assessment** No

#### Other

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.



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## SECTION 16: Other information

### Changes to previous revision

This Safety Data Sheet has been revised due to modifications to Sections 1-16.

### References to key literature and data sources

Refer to ESAB "Welding & Cutting - Risks and Measures", F52-529 "Precautions and Safe Practices for Electric Welding and Cutting" and F2035 "Precautions and Safe Practices for Gas Welding, Cutting and Heating" available from ESAB, and to:

USA: Contact ESAB at [www.esabna.com](http://www.esabna.com) or 1-800 ESAB-123 if you have any questions about this SDS.

American National Standard Z49.1 "Safety in Welding and Cutting", ANSI/AWS F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", AWSF3.2M/F3.2 "Ventilation Guide for Weld Fume", American Welding Society, 550 North Le Jeune Road, Miami Florida 33135. Safety and Health Fact Sheets available from AWS at [www.aws.org](http://www.aws.org).

OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954

American Conference of Governmental Hygienists (ACGIH), Threshold Limit Values and Biological Exposure Indices, 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.

NFPA 51B "Standard for Fire Prevention During Welding, Cutting, and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

UK: WMA Publication 236 and 237, "Hazards from Welding Fume", "The arc welder at work, some general aspects of health and safety".

Germany: Unfallverhütungsvorschrift BGV D1, "Schweißen, Schneiden und verwandte Verfahren".

Canada: CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting, and Allied Processes". This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

### Other

### Additional Information

ESAB requests the users of this product to study this Safety Data Sheet (SDS) and become aware of product hazards and safety information. To promote safe use of this product a user should:

- notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.
- furnish this same information to each of its customers for this product.
- request such customers to notify employees and customers for the same product hazards and safety information.

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