SAFETY DATA SHEET
GC001 Gouging carbon electrodes

Version number: 1
Replaces SDS: 2009-11-23
Issued: 2014-03-25

Not for sale in the USA

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

1.1 Product identifier

Trade name Linde Gouging Carbon DCCC Jointed, Linde Gouging Carbon Pointed.

Article-no

Product/Article	Diameter(inch)	Packaging (ea)	Part Number
Linde Carbon DCCC Jointed	½ x17	50	11200997
Linde Carbon DCCC Jointed	½ x 17	50	11190372
Linde Carbon DCCC Jointed	¾ x17	50	11190376
Linde Carbon DCCC Jointed	3/8 x 17	50	11190378
Linde Carbon DCCC Pointed	½ x 12	50	11190371
Linde Carbon DCCC Pointed	¼ x 12	50	11190373
Linde Carbon DCCC Pointed	1/8 x 12	100	11190374
Linde Carbon DCCC Pointed	3/8 x 12	50	11190377
Linde Carbon DCCC Pointed	3/8 x 12	50	11197656
Linde Carbon DCCC Pointed	3/16 x 12	50	11190375
Linde Carbon DCCC Pointed	5/16 x 12	50	11190379
Linde Carbon DCCC Pointed	5/32 x 12	50	11190380

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

Article type CAG Carbon arc Gouging
Use Arc Air gouging

1.3 Details of the supplier of the safety data sheet

Supplier Linde Canada Limited
Street address 5860 Chedworth Way, Mississauga
Ontario L5R 0A2
Canada
Telephone **1-866-385-5349**
Fax **905-501-1717**
Email info.lg.ca@linde.com

1.4 Emergency telephone number

Available outside office hours Yes
Emergency phone number (24 Hour) : (905) 501-0802 or CHEMTREC (800) 424-9300

Other
Additional product information **Web site: www.lindecanada.com**

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to applicable national Regulations.

2.2 Label elements

Refer to label.

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.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

Component	Chemical Symbol	Amount	CAS Number
Fixed carbon (graphite)	**C**	**>95%**	**7440-44-0** (7782-42-5)
Copper	**Cu**	**<5%**	**7440-50-8**

LD50	LC50
N/Av	N/Av
9 g/kg (mouse,oral)	N/Av

This product may also contain 0.1 to 1.0 % of Crystalline silica, quartz cas#14808-60-7.

Section 4. FIRST AND 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 available

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable 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.

5.2 Special hazards arising from the substance or mixture

Not available

5.3 Advice for fire fighters

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.

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

Fume component	CAS №.	TLV-TWA	TLV-STEL
Total welding fume (particulate)	-	-	-
Copper Fume Dust	7440-50-8	0.2 mg/m^3 1mg/m^3	N/Av
Graphite Total inhalable dust Respirable dust	7440-44-0	2 mg/m^3 (respirable fraction)	N/Av
Carbon Dioxide	124-38-9	5000ppm	30000ppm
Carbon Monoxide	630-08-0	25ppm	N/Av
Nitrogen dioxide (NO_2)	10102-44-0	0.2ppm	N/Av
Ozone (O_3)	10028-15-6	-	N/Av
Nitrogen monoxide (NO)	10102-43-9	25ppm	N/Av

8.2 Exposure controls

Environmental Exposure Controls – 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.
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-flammability	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	Fast
Initial boiling point and boiling range	Not applicable
Melting point / Freezing point	Not available
Odour	Odourless
Odour threshold	Not available
Oxidising properties	Not available
Partition coefficient: n-octanol / water	Not applicable
pH value	Not applicable
Relative density	Not applicable
Solubility	Not available
Solubility in water	Insoluble
Upper / lower flammability or explosive limits	Not applicable
Vapour density	Not applicable
Vapour pressure	Not applicable
Viscosity	Not applicable

9.2 Other information

Not applicable

Other

Density	Not Relevant

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available

10.2 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 available

10.4 Conditions to avoid

None under normal conditions

10.5 Incompatible materials

Not available

10.6 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.

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 available
Corrosive effects	Not available
Sensitisation	May cause sensitisation by skin contact
Mutagenicity	Not available
Carcinogenicity	Welding fumes are possibly carcinogenic to humans
Repeated dose toxicity	Not available
Reproductive toxicity	Not available
Synergistic materials	Not available

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.

Acute fish toxicity	LC50 Fish 96h: Manganese: 2,91 mg/l Aluminiumoxide: >100 mg/l Salmo trutta
Acute algae toxicity	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 available

12.3 Bio accumulative potential

Bioconcentration factor (BCF):
Iron: 140000
Manganese: 59052

12.4 Mobility in Soil

Not available

12.5 Results of PBT and vPvB assessment

Not available

12.6 Other adverse effects

Not available

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	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 (including Provincial and Federal Regulations). Collect all spillage.

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

Not applicable

Other

Dangerous goods	No special requirements are necessary in transporting these products. Transportation of Dangerous Goods Regulations (TDGR): TDG Classification: NOT REGULATED Special case: N/Ap

Section 15. REGUATORY INFORMATION

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

EU regulations	Refer to national Regulations.
National regulations	WHMIS Label Information: **WARNING.** Do not remove or cover this Warning. Protect yourself and others. Read and understand this information. Electric shock can kill. Keep your head out of the fume. Arc rays and fume can affect others in your workplace. Comply with your employer's safety practices and procedures: protect others. Safety data sheet available on request from www.lindecanada.com. WHMIS information: Product is regulated according to the Controlled Product Regulations (CPR) in Canada. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR. WHMIS classification: D2A - Toxic Material with other effects.

15.2 Chemical safety assessment

Not available

Section 16. OTHER INFORMATION

References to key literature and data sources	The customer should provide this Safety Data Sheet to any person involved in the materials use or further distribution. The Linde Group requests the users (or distributors) of this product to read this Safety Data Sheet carefully before usage. **Prepared by LINDE CANADA LIMITED** **References** Safety Data Sheets from manufacturer/supplier. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2014.
Phrase meaning	**Abbreviations** ACGIH American Conference of Governmental Industrial Hygienists CAS Chemical Abstract Service IARC International Agency for Research on Cancer LC Lethal concentration LD Lethal Dosage N/Ap Not applicable N/Av Not available NIOSH National Institute for Occupational Safety and Health STEL Short-term Exposure Limit TLV Threshold Limit Value TWA Time Weighted Average WHMIS Workplace Hazardous Materials Information System

Other

Manufacturer's notes	The information contained in this Safety Data Sheet relates only to the specific materials designated and may not be valid for such material used in combination with any other material or in any process. Information is given in good faith and is based on the latest information available to The Linde Group and is, to the best of The Linde Group's knowledge and belief, accurate and reliable at the time of preparation. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness of the information, and The Linde Group assumes no responsibility and disclaims any liability incurred in using this information. The product is supplied on the condition that the user accepts the responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. Freedom from patent rights must not be assumed. Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.

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