

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2

Replaces SDS: 2009-11-23

Issued: 2014-03-25

Not for sale in the USA
Ensure that this SDS is received by the appropriate person

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

1.1 Product identifier

Trade name BOC MIG/TIG ALU 5356 and 4043

Article-no

Product/Article	Diameter(mm)	Packaging (pk/ea)	Part Number
BOC MIG WIRE ALU 5356	0.8MM	7KG	42962
BOC MIG WIRE ALU 5356	1.0MM	7KG	42963
BOC MIG WIRE ALU 5356	1.2MM	7KG	42964
BOC MIG WIRE ALU 5356	1.6MM	6.5KG	42965
BOC MIG WIRE ALU 4043	0.8MM	7KG	42958
BOC MIG WIRE ALU 4043	1.0MM	7KG	42959
BOC MIG WIRE ALU 4043	1.2MM	7KG	42960
BOC MIG WIRE ALU 4043	1.6MM	6.5KG	42961
BOC TIG WIRE ALU 4043	1.6MM	2KG	42966
BOC TIG WIRE ALU 4043	2.4MM	2KG	42967
BOC TIG WIRE ALU 4043	3.2MM	2KG	42968
BOC TIG WIRE ALU 5556	1.6MM	2KG	42972
BOC TIG WIRE ALU 5556	2.4MM	2KG	42973
BOC TIG WIRE ALU 5556	3.2MM	2KG	42974
BOC TIG WIRE ALU 5356	1.6MM	2KG	42969
BOC TIG WIRE ALU 5356	2.4MM	2KG	42970
BOC TIG WIRE ALU 5356	3.2MM	2KG	42971

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

Article type GMAW (MIG) Gas Metal arc welding, GTAW (TIG) Tungsten Inert gas welding AWS A5.10 or ISO 18273

Use Gas shielded Arc welding

1.3 Details of the supplier of the safety data sheet

Supplier BOC Limited

Street address Customer Service Centre, Priestley Road,
Worsley, Manchester, M28 2UT,
United Kingdom

Telephone +44 (0)800 111 333

Fax +44 (0)800 111 555

Email custserv@boc.com

1.4 Emergency telephone number

Available outside office hours Yes

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

Emergency phone number +44 (0)800 111 333

Other

Additional product information Web site www.BOCOnline.co.uk

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No1271/2008[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.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture and please refer to Section 3.2

3.2 Mixtures

AWS Specification	Al %	Si %	Fe %	Cu %	Mn %	Mg %	Cr %	Zn %	Ti %
CAS No	7429-90-5	7440-21-3	7439-89-6	7440-50-8	7439-96-6	7439-95-4	7440-47-3	7440-67-7	7439-89-6
A5.10/R4043	Bal.	4.5-6.0	0.8	0.30	0.05	0.05	-	0.10	0.20
A5.10/R 5356	Bal. As above	0.25	0.4	0.1	0.05-0.20	4.5-5.5	0.05-0.20	0.10	0.06-0.20
A5.10 / others	Bal. As above	13.0	0.8	6.8	1.0	5.5	0.35	0.25	0.30

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

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 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 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.

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

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

Welding fume component	CAS No.	WEL ^{3*} 8hr TWA	STEL ³ 15min TWA	Hazard Classification 67/548/EC	Hazard Classification (GHS) 1272/2008
Aluminium Oxides	1344-28-1			R15/R17	H261/H250
Total inhalable dust		10		Pyrophoric	Pyrophoric
Reparable dust		4		R15/R10 stabilised	H261/H228 stabilised
Iron oxide fume (as Fe)	1309-37-1	5	10		
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.5			

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

Silica, amorphous (total inhalable dust)	-	6	
(respirable dust)		2.4	
Magnesium oxide (as Mg) Total inhalable dust	1309-48-4	10	
respirable dust		4	10
Copper, fume	7440-50-8	0.2	
Zinc oxide, fume	1314-13-2	5	10
Carbon Dioxide	124-38-9	5000ppm	15000ppm
Carbon Monoxide	630-08-0	30ppm	200ppm
Nitrogen dioxide (NO ₂)	10102-44-0	0.5ppm ⁵	0.95ppm ⁵
Ozone (O ₃)	10028-15-6		0.2 ppm ⁶
Nitrogen monoxide (NO)	10102-43-9	0.5ppm ⁵	0.63ppm ⁵

Notes

3 Units are in mg/m³, except stated otherwise

4 WEL Workplace exposure limits

5 As recommended by MAK Commission based on scientific experience and is not established law

6 As recommended by EH 40 (2005) in the UK

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	Light grey metallic colour
Appearance, physical state	Aluminium wire or Rod
Auto-ignition temperature	Not applicable
Auto-inflammability	Not auto-flammable
Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not explosive

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

Flammability (solid gas)	Not applicable
Flash point	Not applicable
Form	Fast
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

9.2 Other information

Not applicable

Other

Density	2.7g/cm ³
----------------	----------------------

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

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

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	-	-	-	0
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	<1.0
Copper oxide (Cu)	1317-38-0	-	-	-	<.1
Iron oxide (Fe)	1332-37-2	-	-	-	<0.1 to 3.0
Magnesium oxide (Mg)	1309-48-4	-	-	-	<0.1 to 5.0
Manganese (Mn)	7439-96-5	-	-	-	<0.1 to 10.0
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	≤1.0
Zinc (Zn)	7440-66-6	-	-	-	≤1.0

Classification information relates to the fume during use

Classification	H phrase	Text
----------------	----------	------

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

Skin sensitiser: Category 1	H317	May cause an allergic skin reaction
Carcinogenicity: Category 1B	H350	May cause cancer

Analysis wt %	
Al bal	Mg <1
Fe 1 to 3	Zn <1
Cr <1	Cu <1

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

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

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

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 (EWC)

12 01 13 - welding waste

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

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



Version number: 2
Replaces SDS: 2009-11-23
Issued: 2014-03-25

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

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 EH40/2005 Workplace exposure limits
The Waste Regulations 2011 No. 988
Local laws and regulations should be carefully observed.

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.

EH40/2005 Workplace exposure limits.

The Waste regulations 2011 No.988

C&L Inventory database

Annex VI CLP Regulation (EC) 1272/2008

Phrase meaning H317 - May cause an allergic skin reaction

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