

SAFETY DATA SHEET

BW006 Bare Aluminium wire electrodes and Rods



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 BARE ALUMINIUM WELDING RODS AND ELECTRODES
(Afrox Filmax 1050, Afrox TIG 1050, Afrox Filmax 4043, Afrox TIG 4043, Afrox Filmax 4047, Afrox TIG 4047, Afrox Filmax 5183, Afrox TIG 5183, Afrox Filmax 5356, Afrox TIG 5356)

Article-no	<i>Product Packaging Data</i>	<i>Diameter (mm)</i>	<i>Pack Mass (kg)</i>	<i>Consumable Length (mm)</i>	<i>Item Number</i>
	Afrox Filmax 1050	1,2	7,0	-	W033167
		1,6	7,0	-	W077507
	Afrox TIG 1050	1,6	5,0	1000	W030506
		2,4	5,0	1000	W077501
		3,2	2,0	1000	W030508
	Afrox Filmax 4043	1,0	7,0	-	W077517
		1,2	7,0	-	W033183
		-	-	-	-
		1,6	7,0	-	W033134
	Afrox TIG 4043	1,6	2,0	1000	W030511
		2,4	2,0	1000	W077513
		3,2	2,0	1000	W030513
		5,0	2,0	1000	W030514
	Afrox Filmax 4047	1,0	7,0	-	W077524
		1,2	7,0	-	W077525
		1,6	7,0	-	W077526
	Afrox TIG 4047	1,6	2,0	1000	W000850
		2,0	2,0	1000	W077518
		2,4	2,0	1000	W030519
		3,2	2,0	1000	W000851
	Afrox Filmax 5183	1,0	7,0	-	W077537
		1,2	7,0	-	W033156
		1,6	7,0	-	W077539
		-	-	-	-
	Afrox TIG 5183	1,6	2,0	1000	W077529
		2,4	2,0	1000	W077531
		3,2	2,0	1000	W077532
		4,0	2,0	1000	W077533

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Article type Use	Afrox Filmax	0,8	7,0	-	W077541
	5356	1,2	7,0	-	W033175
		1,2	0,5	-	W033153
		1,6	7,0	-	W033176
	Afrox TIG 5356	1,6	2,0	1000	W030522
		2,4	2,0	1000	W030520
		3,2	2,0	1000	W030521
		-	-	1000	-

1.3 Details of the supplier of the safety data sheet

Supplier	Afrox
Street address	23 Webber Street, Selby Johannesburg, 2001 South Africa
Telephone	+27 (0) 11 490 0400
Fax	+27 (0) 860 020201
Email	Customer.service@afrox.linde.com

1.4 Emergency telephone number

Available outside office hours	Yes
Emergency phone number	0860 02 02 02

Other

Additional product information	Web site: www.afrox.co.za
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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.

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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

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

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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 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 all flammable materials and liquids before welding.

General hygiene Wash hands before breaks and immediately after handling the product.

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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 TWA	STEL 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
Respirable 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			
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	0.95ppm		
Ozone (O ₃)	10028-15-6		0.2 ppm		
Nitrogen monoxide (NO)	10102-43-9	0.5ppm ^s	0.63ppm		

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.

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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
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

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Other

Density 2.7g/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	-	-	-	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

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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	≤1.0
Zinc (Zn)	7440-66-6	-	-	-	≤1.0

Classification information relates to the fume during use

Classification	H phrase	Text
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

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	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

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

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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

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).

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Phrase meaning	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 H317 – May cause an allergic skin reaction H350 – May cause cancer.
Other	
Manufacturer's notes	<i>Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.</i>

End of Document