

SAFETY DATA SHEET
BW 006 Low Alloy Carbon steel solid wire electrodes and rods



Version number: 2
 Replaces SDS: New
 Issued: 2014-05-06

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 NEXUS LOW ALLOY MIG/MAG WELDING WIRES
Article-no

Product/Article	Diameter (mm)	Packaging (kg)	Part Number
NEXUS TIG WIRE ER70S-3	1.6	5	505056882
	2.4	5	505042567
	3.2	5	505022818
NEXUS TIG WIRE A15	1.0	5	505019391
	1.6	5	505003552
	2.0	5	505012965
	2.4	5	505028597
	3.2	5	505027239
NEXUS TIG WIRE A18	1.6	5	505004780
	2.4	5	505058708
	3.2	5	505023520
NEXUS TIG WIRE CCMS	1.6	5	505036719
	2.4	5	505000422
	3.2	5	505028393
NEXUS TIG WIRE ER80S-B2	1.6	5	505029319
	2.4	5	505047473
	3.2	5	505029320
NEXUS TIG WIRE 1NI	1.6	5	505001318
	2.4	5	505029321
	3.2	5	505043569
NEXUS TIG WIRE 2NI	1.6	5	505058650
	2.4	5	505041533
	3.2	5	505044623
NEXUS TIG WIRE ER90S-B3	1.6	5	505047566
	2.4	5	505058752
	3.2	5	505059005
NEXUS TIG WIRE ER90S-B9	1.6	5	505045759
	2.4	5	505011095
	3.2	5	505027024
NEXUS TIG WIRE NICU	1.6	5	505052732
	2.4	5	505045117
	3.2	5	505024800
NEXUS TIG WIRE MO	1.6	5	505051381
	2.4	5	505009413
	3.2	5	505006900
NEXUS TIG WIRE 1CRMO	1.2	5	505016583
	1.6	5	505025855
	2.4	5	505049863

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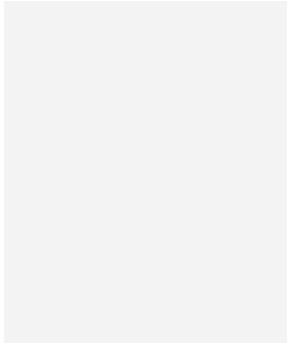
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	3.2	5	505051161
NEXUS TIG WIRE 2CRMO	1.6	5	505051382
	2.4	5	505008400
	3.2	5	505045705
NEXUS TIG WIRE MNMO	1.6	5	505026814
	2.4	5	505034117
	3.2	5	505029316
NEXUS TIG WIRE 5CRMO	1.6	5	505020306
	2.4	5	505056162
	3.2	5	505002856
NEXUS TIG WIRE 9CRMO	1.6	5	505029317
	2.4	5	505029318
	3.2	5	505056881
NEXUS MIG WIRE 1NIMO	0.8	15	505053856
	1.0	15	505054338
	1.2	15	505058107
	1.6	15	505058513
NEXUS MIG WIRE NICU	0.8	15	505010840
	1.0	15	505016932
	1.2	15	505048263
	1.6	15	505051061
NEXUS MIG WIRE MO	0.8	15	505005023
	1.0	15	505038643
	1.2	15	505025202
	1.6	15	505017269
NEXUS MIG WIRE 1CRMO	0.8	15	505015854
	1.0	15	505034149
	1.2	15	505050446
	1.6	15	505008904
NEXUS MIG WIRE 2CRMO	0.8	15	505017243
	1.0	15	505017535
	1.2	15	505016588
	1.6	15	505058008
NEXUS MIG WIRE MNMO	0.8	15	505003971
	1.0	15	505022613
	1.2	15	505016213
	1.6	15	505018019
NEXUS MIG WIRE 5CRMO	1.2	15	505016589
NEXUS MIG WIRE NICRMO	0.8	15	505018935
	1.0	15	505015827
	1.2	15	505036421
	1.6	15	505036321
NEXUS MIG WIRE 2NICRMO	1.0	15	505035446
	1.2	15	505043651
NEXUS MIG WIRE ER80S-B2	0.8	15	505013151
	1.0	15	505037956
	1.2	15	505051972
	1.6	15	505035380
NEXUS MIG WIRE 1 NI	0.8	15	505021568

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	1.0	15	505051704
	1.2	15	505051999
	1.6	15	505052393
NEXUS MIG WIRE 2 NI	0.8	15	505052948
	1.0	15	505052974
	1.2	15	505053217
	1.6	15	505053248
NEXUS MIG WIRE ER90S-B3	0.8	15	505053349
	1.0	15	505053467
	1.2	15	505053685
	1.6	15	505053686

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

Article type Mig/Tig Low Alloy Carbon steel solid wire electrodes and rods to AWS A 5.28 or EN ISO 16834
Use Mig/Tig Gas shielded Arc welding

1.3 Details of the supplier of the safety data sheet

Supplier ISS,

Street address Redfield Road,
 Lenton,
 Nottingham NG7 2UJ

Telephone

Fax

Email isstechsupport@boc.com

1.4 Emergency telephone number

Available outside office hours No

Emergency phone number

Other

Additional product information **Web site:** www.nexusweld.com

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

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2.2 Label elements

Not applicable

2.3 Other hazards

This product contains: Nickel as classified as sensitising and limited evidence of carcinogenic effect. The form of this product does not contribute to a hazard classification of the product.

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 A 5.28/ISO 16834/14341/21952/636 -A Specification	Class / Cas No	Fe%	Ni%	Cr%	Mn%	Cu%	Mo%	Ot her %	Si%
		7439-89-6	7440-02-0	7440-47-3	7439-96-5	7440-50-8	7439-98-7	-	7440-21-3
A5.28	E81Ni1	bal.	-	-	0-3	-	-	-	0-3
A5.28	E81A1	bal.	-	-	0-3	-	-	-	0-3
EN ISO 14341-A: G 50 7 M21 4 Mo/21952-A:G4M31	4Mo	Bal	0.15	0.15	1.70 to 2.10	0.35	0.40 to 0.60	-	0.50 to 0.80
EN ISO 21952-A:G CrMo1Si	CrMo1Si	Bal	-	0.90 to 1.30	0.80 to 1.20	-	0.40 to 0.65	-	0.50 to 0.80
EN ISO 21952-A: G CrMo2Si	CrMo2Si	Bal	-	2.3 to 3.0	0.80 to 1.20	-	0.90 to 1.20	-	0.30 to 0.90
EN ISO 14341-A:G 42 2 CI AND G 46 6 M21 2Mo/21952-A:GMoSi	2Mo	Bal	0.15	0.15	0.90 to 1,30	0.35	0.40 to 0.60	-	0.30 to 0.70
EN ISO 16834-A:G 69 4 M21 Mn3Ni1CrMo	Mn3Ni1CrMo	Bal	1.20 to 1.60	0.20 to 0.40	1.30 to 1.80	0.35	0.20 to 0.30	-	0.40 to 0.70
EN ISO 16834-A:G 89 6 M21 Mn4Ni2CrMo	Mn4Ni2CrMo	Bal	1.80 to 2.30	0.20 to 0.45	1.60 to 2.10	0.3	0.45 to 0.70	-	0.60 to 0.90
EN ISO 14341-A:G46 6 M21 3Ni1	3Ni1 3Ni1	Bal	0.80 to 1.50	0.15	1.00 to 1.60	0.35	0.15	-	0.50 to 0.90
EN ISO 14341-A:G 46 4 M21 2Ni2	2Ni2	Bal	2.10 to 2.70	0.15	0.80 to 1.40	0.35	0.15	-	0.40 to 0.80
EN ISO 16834-A:G 69 4 M21 AND G 62 4 C ZMn3Ni1Mo	ZMn3Ni1Mo	Bal	0.80 to 1.30	0.15	1.30 to 1.90	0.3	0.25 to 0.65	-	0.40 to 0.80
EN ISO 14341-A:G 42 2 M21 Z	GZ	Bal	0.80 to 1.50	0.15	1.00 to 1.60	0.35 to 0.50	0.15	-	0.50 to 0.80
EN ISO 636-B: W 57 A 3 4M31	W4M31	Bal	-	-	1.60 to 2.10	-	0.40 to 0.65	-	0.50 to 0.80
EN ISO 21952-A: W CrMo1Si	W CrMo1Si	Bal	-	0.90 to 1.30	0.80 to 1.20	-	0.40 to 0.65	-	0.50 to 0.80
EN ISO 2195-A: W CrMo2Si	W CrMo2Si	Bal	-	2.3 to 3.0	0.80 to 1.20	-	0.90 to 1.20	-	0.30 to 0.90
EN ISO 636-A: W 46 4 W2Mo/21952-A: WMoSi	W2Mo	Bal	0.15	0.15	0.90 to 1.30	-	0.40 to 0.60	-	0.30 to 0.70
EN ISO 636-A:W 46 6 W3Ni1	W3Ni1	Bal	0.80 to 1.50	0.15	1.00 to 1.60	-	0.15	-	0.50 to 0.90
EN ISO 636-A:W 42 9 W2Ni2	W2Ni2	Bal	2.10 to 2.70	0.15	0.80 to 1.40	-	0.15	-	0.40 to 0.80
EN ISO 636-A:W 42 4 WZ	WZ	Bal	0.80 to 1.50	0.15	1.00 to 1.60	0.35 to 0.50	0.15	-	0.50 to 0.80

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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 (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

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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

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.

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	10
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.5	

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Silica, amorphous (total inhalable dust)	-	6	
(reparable dust)		2.4	
Nickel compounds (Soluble)		1	1
Titanium dioxide (total inhalable dust)	13463-67-7	10	
(reparable dust)		4	
Chromium oxide		0.5	0.5
Molybdenum compounds (as Mo)	7439-98-7	5	0.5
Fluoride, inorganic (as F)	16984-48-8	2.5	

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	Copper coated
Appearance, physical state	Wire/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

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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	7.98g/cm ³
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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

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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
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 to 7.3
Copper oxide (Cu)	1317-38-0	-	-	-	0.3 to 0.7
Iron oxide (Fe)	1332-37-2	-	-	-	45.6 to 77.5
Manganese (Mn)	7439-96-5	-	-	-	3.0 to 9.4
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 to 0.7
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 to 0.5
Silicon (Si)	7440-21-3	-	-	-	1.0 to 1.9

Classification	H phrase	Text
Skin corrosion/irritation:	H314	Causes severe skin burns and eye damage

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

The classification information above relates to the fume during use

Fume analysis: wt %	Fume analysis: wt %
Mo 0,2 to 2	Ni 0.1 to 0.2
Ti 0.1 to 3.2	Mn 5 to 13
Fe 29.9 to 58.9	Si 1 to 3
Cu 0.1 to 1.0	

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

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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 applicable

12.3 Bio accumulative potential

Bioconcentration factor (BCF):

Iron: 140000

Manganese: 59052

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

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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 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

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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	H314 - Causes severe skin burns and eye damage 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