



# SAFETY DATA SHEET

This Safety Data Sheet complies with Annex II of 830/2015 amending EC No. 1907/2006, CLP directive 1272/2008, also in accordance with ISO 11014-1 and ANSI Z400.1

## All-State ER70S-6

Issued: 2018-01-14

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

#### 1.1. Product identifier

**Trade name** All-State ER70S-6

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

**Use** Arc Welding

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

**SDS created by** TDS Team

**Supplier** ESAB DENTON

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

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

**Email** sdsrequest@esab.com

**Web site** www.esab.com

#### 1.4. Emergency telephone number

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

**Available outside office hours** No

#### Other

Classification:  
AWS A5.18, ER70S-6

### 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



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### 2.3. Other hazards

Skin contact is normally no hazard but should be avoided to prevent possible allergic reactions.

Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

When this product is used in a welding process, the most important hazards are welding fumes, heat, radiation and electric shock.

Fumes: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function. Prolonged inhalation of chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, disturbances and spastic gait.

Heat: Spatter and melting metal can cause burn injuries and start fires.

Radiation: Arc rays can severely damage eyes or skin.

Electricity: Electric shock can kill.

### Other

Emergency Overview: Metal wire or rods in varying colours. This product is normally not considered hazardous as shipped. Gloves should be worn when handling to prevent cuts and abrasions.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No.	Concentration	Classification	R-phrase H-phrase
IRON	7439-89-6 231-096-4 Registered	>95%	- -	- -
Manganese	7439-96-5 231-105-1 -	1 - 2%	- -	- -
Silicon	7440-21-3 231-130-8 -	<1%	- -	- -
Copper	7440-50-8 231-159-6 -	<0,5%	- -	- -
Chromium*	7440-47-3 231-157-5 -	<0,15%	- -	- -

#### Product based on

This product is continuous metal wires and solid metal rods.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). call emergency physician to the scene of the accident.

#### Inhalation

If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician.



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### Skin contact

For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.

### Eye contact

For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.

### 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

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation.

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

Not applicable

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Wear self-contained breathing apparatus as fumes or vapors may be harmful.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry. Check condition of protective clothing and equipment on a regular basis.

### 6.2. Environmental precautions

Refer to Section 13.

### 6.3. Methods and material for containment and cleaning up

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

### 6.4. Reference to other sections

Refer to Section 8 and Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

Handle with care to avoid stings and cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.



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### 7.2. Conditions for safe storage, including any incompatibilities

Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

### 7.3. Specific end use(s)

Arc Welding

## 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). For information about welding fume analysis refer to Section 10.

#### 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		Ceiling exposure limit mg/m <sup>3</sup> -ppm		Remark	Source	Year
			1	-	-	-	-	-				
Chromium*	7440-47-3	231-157-5	1	-	-	-	-	-	-	Metal	OS HA	2017
Chromium*	7440-47-3	231-157-5	0,005	-	-	-	-	-	-	as Cr(VI)(water sol. and insol. inorganic compds)	OS HA	2017
Chromium*	7440-47-3	231-157-5	0,5	-	-	-	-	-	-	as Cr(Cr(II) and Cr(III) inorganic compds)	OS HA	2017
Copper	7440-50-8	231-159-6	0,1	-	-	-	-	-	-	Fume, as Cu	OS HA	2017
Manganese	7439-96-5	231-105-1	-	-	-	-	5	-	-	as Mn	OS HA	2017
Silicon	7440-21-3	231-130-8	5	-	-	-	-	-	-	Respirable fraction	OS HA	2017
Silicon	7440-21-3	231-130-8	15	-	-	-	-	-	-	Total dust	OS HA	2017
IRON	7439-89-6	231-096-4	-	-	-	-	-	-	-	No PEL	OS HA	2017
Copper	7440-50-8	231-159-6	1	-	-	-	-	-	-	as Cu (dust,mist)	OS HA	2017

### 8.2. Exposure controls

Not applicable

#### Other

Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Train welders to avoid contact with live electrical parts and insulate conductive parts.



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### Ventilation

Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Use special care when welding painted or coated steels since hazardous substances from the coating may be emitted. Use respirator or air supplied respirator when welding or brazing in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	Steel wire or rod
<b>Appearance, colour</b>	Varying color
<b>Appearance, physical state</b>	Solid
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Evaporation rate</b>	Not applicable
<b>Explosive properties</b>	Not applicable
<b>Flammability (solid, gas)</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Initial boiling point and boiling range</b>	No data available
<b>Melting point</b>	>1000°C / >1800oF
<b>Melting point / freezing point</b>	Not applicable
<b>Odour</b>	Not applicable
<b>Odour treshold</b>	Not applicable
<b>Oxidising properties</b>	Not applicable
<b>Partition coefficient: n-octanol / water</b>	Not applicable
<b>pH</b>	Not applicable
<b>pH value</b>	Not applicable
<b>Relative density</b>	No data available
<b>Solubility</b>	No data available
<b>Upper / lower flammability or explosive limits</b>	No data available
<b>Vapour density</b>	Not applicable



**Vapour pressure** Not applicable

**Viscosity** Not applicable

**Volatility** Not applicable

### 9.2. Other information

Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** Contact with chemical substances like acids or strong bases could cause generation of gas.

### 10.2. Chemical stability

**Chemical stability** This product is stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Not applicable

### 10.4. Conditions to avoid

**Conditions to avoid** This product is only intended for normal welding purposes.

### 10.5. Incompatible materials

**Incompatible materials** Not applicable

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** When this product is used in a welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in Section 3 and those from the base metal and coating.  
The amount of fumes generated from this product varies with welding parameters and dimensions, but is generally no more than 1 to 13 g/kg consumable.  
Fumes from this product may contain compounds of the following chemical elements: Fe, O, Mn, Cr, Si and Cu. The rest is not analyzed, according to available standards.

### Other

Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 8. A significant amount of the chromium in the fumes can be hexavalent chromium, which has a very low exposure limit in some countries. Manganese has a low exposure limit, in some countries, that may be easily exceeded. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Information on toxicological effects** Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).



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<b>Acute toxicity</b>	Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.
<b>Skin corrosion/irritation</b>	No data available
<b>Serious eye damage/irritation</b>	No data available
<b>Respiratory/skin sensitization</b>	No data available
<b>Germ cell mutagenicity</b>	No data available
<b>Genotoxicity</b>	No data available
<b>Carcinogenicity</b>	*This product contains substance(s) that may cause cancer, which is/are classified as Carcinogenic to humans as per IARC.
<b>Repeated dose toxicity</b>	No data available
<b>Reproductive toxicity</b>	No data available
<b>STOT-single exposure</b>	No data available
<b>STOT-repeated exposure</b>	No data available
<b>Aspiration hazard</b>	No data available
<b>LD50 Oral</b>	No data available
<b>LD50 Dermal</b>	No data available
<b>LC50 Inhalation</b>	No data available

### Other

<b>Long term effect</b>	Chronic toxicity: Overexposure to welding fumes may affect pulmonary function. Prolonged inhalation of chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, disturbances and spastic gait.
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## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Acute toxicity</b>	No data available
<b>Toxicity</b>	No data available
<b>Aquatic</b>	No data available
<b>Soil</b>	No data available
<b>Acute fish toxicity</b>	No data available
<b>Acute algae toxicity</b>	No data available
<b>Acute crustacean toxicity</b>	No data available



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**Chronical toxicity** No data available

### 12.2. Persistence and degradability

**Persistence and degradability** No data available

**Decay/transformation** No data available

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available

### 12.4. Mobility in soil

**Mobility** No data available

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** No data available

### 12.6. Other adverse effects

Not applicable

### Other

Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal considerations**

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.  
USA RCRA: Unused products or product residue containing chromium is considered hazardous waste if discarded, RCRA ID Characteristic Toxic Hazardous Waste D007.  
(<https://rcrainfo.epa.gov/rcrainfoweb/action/modules/main/glossary/waste;jsessionid=A98F2456754BC0CE970C52F4E3AA429F>)  
Residues from welding consumables and processes could degrade and accumulate in soils and groundwater.

## 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



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#### 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

## SECTION 15: Regulatory information

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

#### EU regulations

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL. of 19 November 2008. on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.



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### Other regulations, limitations and legal regulations

Poland Regulations:

ACT of 25 February 2011 on the chemical substances and their mixtures(OJ # 63, poz. 322).

Regulation of the Minister of Labour and Social Policy of 6 June 2014 on Maximum Permissible Concentration and Intensity of Agents Harmful to Health in the Working Environment (Dz. u. z. 2014, poz 817).

The Act on Waste of 14 December 2012, Journal of Laws of 2013, item 21 with amendments

Act of 13th June 2013 on packaging management and packaging waste (Journal of Laws of 2013, item 888).

Regulation of the Minister of the Environment of 9 December 2014 on waste catalogue (Journal of Laws of 2014, item 1923).

Regulation of the Minister of Economy of 21 December 2005. Concerning essential requirements for personal protective equipment (Journal. Laws No. 259, item. 2173).

Regulation of the Minister of Health of 2 February 2011 on tests and measurements of factors harmful to health in the working environment (the Journal of Laws 2011, no. 33, item 166).

USA Regulations :

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.)

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.

EPCRA/SARA Title III 313 Toxic Chemicals: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA 313 reporting. See Section 3 for weight percent.

Manganese: 1.0% de minimis concentration

Copper: 1.0% de minimis concentration

Chromium: 1.0% de minimis concentration

Canada: WHMIS classification: Class D; Division 2, Subdivision A

International Inventories:

Australia: The substance(s) in this product is/are in compliance with the inventory requirements of Australian Inventory of Chemical Substances (AICS)

United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.

Canadian Environmental Protection Act (CEPA): All constituent(s) of this product is/are on the Domestic Substance List (DSL).

### 15.2. Chemical safety assessment

#### Chemical safety assessment

No data available

#### 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. This SDS supersedes... 1027/05

#### References to key literature and data sources

Refer to ESAB "Welding and 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: [www.esab.com](http://www.esab.com)

#### Other

#### Additional information

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", 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: Accident prevention regulation BGV D1, "Welding, cutting and related procedures"

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 of the information required by the CPR.

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 the products

Request such customers to notify employees and customers for the same product hazards and safety information.

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