



SAFETY DATA SHEET
 This Safety Data Sheet complies with Regulation (EC) No 1907/2006, 1272/2008, ISO 11014-1 and ANSI Z400.1

All-State 4-60T - TIG Rod 3/32 x 36in Electrode 5#

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

1.1. Product identifier

Trade name All-State 4-60T - TIG Rod 3/32 x 36in Electrode 5#

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

Supplier ESAB AB
 Street address Box 8004
 402 77 Göteborg
 Sweden
 Telephone +46 31 509000
 Email sds.esab@esab.se
 Web site www.esab.com

1.4. Emergency telephone number

Not applicable

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The product is not classified

2.2. Label elements

The product does not require labelling

2.3. Other hazards

This product contains nickel, which is classified as toxic by prolonged inhalation, a skin sensitizer and a suspect carcinogen. Nickel powder is harmful for the environment. Avoid eye contact or inhalation of dust from the product. 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.

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.



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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No.	Concentration	Classification	R-phrase H-phrase
Nickel powder	7440-02-0 231-111-4 -	55 - 56%	- Carc. 2, Aquatic Chronic 3, Skin Sens. 1, STOT RE 1	- H317, H351, H372, H412
Iron	7439-89-6 231-096-4 01-2119462838 - 24	43 - 44%	- -	- -
Manganese	7439-96-5 231-105-1 01-2119449803 - 34	<0,25%	- -	- -
Silicon	7440-21-3 231-130-8 -	<0,15%	- -	- -
Carbon	7440-44-0 231-153-3 -	<0,05%	- -	- -

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

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

Prolonged inhalation of nickel compounds above safe exposure limits can cause cancer.
May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable

SECTION 5: Firefighting measures

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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

Refer to section 8.

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 8/13

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.

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)

Not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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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).

National occupational exposure limits

Ingredient	CAS no.	EC No.	Exposure limit mg/m3-ppm	Short-term exposure limit mg/m3-ppm	Ceiling exposure limit mg/m3-ppm	Remark	Source	Year
Iron	7439-89-6	231-096-4	-	-	-	-	-	-
Manganese	7439-96-5	231-105-1	-	-	-	5	as Mn (metal and fume)	OSHA 2016
Nickel powder	7440-02-0	231-111-4	1	-	-	-	as Ni	OSHA 2016
Carbon	7440-44-0	231-153-3	-	-	-	-	No PEL	OSHA 2016
Silicon	7440-21-3	231-130-8	-	-	-	-	No PEL	OSHA 2016

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.

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.

Personal protective equipment

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Solid, non-volatile with varying color.

Appearance, colour

Not applicable

Appearance, physical state

Not applicable

Auto-ignition temperature

Not applicable

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Decomposition temperature	Not applicable
Evaporation rate	Not applicable
Explosive properties	Not applicable
Flammability (solid, gas)	Not applicable
Flash point	Not applicable
Initial boiling point and boiling range	Not applicable
Melting point	>1000°C/>1800°F
Melting point / freezing point	Not applicable
Odour	Not applicable
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
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

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 Stable at normal conditions

10.3. Possibility of hazardous reactions

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Not applicable

10.4. Conditions to avoid

Not applicable

10.5. 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 type of product is normally very small, but varies with welding parameters. Fumes from these products may contain compounds of the following chemical elements: Fe, O, C, Mn, Si, Ni. The rest is not analyzed, according to available standards. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 8. Manganese and nickel have low exposure limits, in some countries, that may be easily exceeded.

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).

acute toxicity

Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

skin corrosion/irritation

Not applicable

serious eye damage/irritation

Not applicable

Respiratory/skin sensitization

Not applicable

germ cell mutagenicity

Not applicable

Genotoxicity

Not applicable

carcinogenicity

Not applicable

reproductive toxicity

Not applicable

STOT-single exposure

Not applicable

STOT-repeated exposure

Not applicable

Aspiration hazard

Not applicable



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SECTION 12: Ecological information

12.1. Toxicity

Not applicable

12.2. Persistence and degradability

Not applicable

12.3. Bioaccumulative potential

Not applicable

12.4. Mobility in soil

Not applicable

12.5. Results of PBT and vPvB assessment

Not applicable

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. 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

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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 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

Other regulations, limitations and legal regulations

Canada: WHMIS classification: Class D; Division 2, Subdivision A Canadian Environmental Protection Act (CEPA): All constituents of this product are on the Domestic Substance List (DSL).
 USA: Under the OSHA Hazard Communication Standard, this product is considered hazardous.
 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.)
 United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.
 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.
 Section 311 Hazard Class
 As shipped: Immediate; In use: Immediate delayed
 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.
 Ingredient name/ Disclosure threshold
 Manganese/1.0% de minimis concentration
 Nickel: 0.1% de minimis concentration

15.2. Chemical safety assessment

Chemical safety assessment No

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.

SECTION 16: Other information



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Changes to previous revision	This Safety Data Sheet has been revised due to modification(s) to section(s) 1-16
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
Phrase meaning	<p>Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3</p> <p>Carc. 2 - Carcinogenicity, hazard category 2</p> <p>Skin Sens. 1 - Skin sensitisation, hazard category 1</p> <p>STOT RE 1 - Specific Target Organ Toxicity — Repeated exposure, hazard category 1</p> <p>H317 - May cause an allergic skin reaction.</p> <p>H351 - Suspected of causing cancer.</p> <p>H372 - Causes damage to organs through prolonged or repeated exposure.</p> <p>H412 - Harmful to aquatic life with long lasting effects.</p>

Other

Additional information	<p>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:</p> <p>notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.</p> <p>furnish this same information to each of its customers for the product.</p> <p>request such customers to notify employees and customers for the same product hazards and safety information. The information herein is given in good faith and based on technical data that ESAB believes to be reliable. Since the conditions of use is outside our control, we assume no liability in connection with any use of this information and no warranty,</p>
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