



SAFETY DATA SHEET

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

Coreshield 8

Replaces SDS: 2016-11-24

Issued: 2017-04-06

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

1.1. Product identifier

Trade name Coreshield 8

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
40277 Göteborg
Sverige

Telephone +4631509000

Email esab.sverige@esab.se

Web site www.esab.com / www.esab.se

1.4. Emergency telephone number

Emergency phone number +46 31 509000

Available outside office hours No

Other

Classification(s): SFA/AWS A5.20: E71T-8

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

2.3. Other hazards

This product contains potassium fluorosilicate, which is classified as toxic by inhalation, skin contact and ingestion. This product

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contains quartz, but normally not in an inhalable fraction. Quartz can cause silicosis and may cause cancer.

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. 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, psychological 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.

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 01-2119462838 - 24	>60%	- -	- -
Iron oxide	1309-37-1 215-168-2 -	7 - 13%	- -	- -
Aluminum	7429-90-5 231-072-3 -	1 - 5%	- -	- -
Lithium carbonate	554-13-2 209-062-5 -	1 - 5%	- -	- -
Lithium oxide	12057-24-8 235-019-5 -	1 - 5%	- Skin Corr. 1B	- H314
Magnesium	7439-95-4 231-104-6 -	1 - 5%	- -	- -
Barium carbonate	513-77-9 208-167-3 -	0,1 - 1%	- Acute Tox. 4 - oral	- H302

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Magnesium oxide	1309-48-4 215-171-9 -	0,1 - 1%	- -	- -
Manganese	7439-96-5 231-105-1 01-2119449803 - 34	0,1 - 1%	- -	- -
Potassium fluorosilicate	16871-90-2 240-896-2 -	0,1 - 1%	- -	- -
Quartz	14808-60-7 238-878-4 -	0,1 - 1%	- STOT RE 1	- H372
Titanium	7440-32-6 231-142-3 -	0,1 - 1%	- -	- -
Zirconium	7440-67-7 231-176-9 -	0,1 - 1%	- -	- -

Product based on This product is a preparation of flux-cored wire.

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. Call a physician immediately.

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

Not applicable

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

Not applicable

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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

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)

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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.

UK, Workplace Exposure Limits, mg/m³

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National occupational exposure limits

Ingredient	CAS no.	EC No.	Exposure limit		Short-term exposure limit		Remark	Source	Year
			mg/m ³	ppm	mg/m ³	ppm			
Iron	7439-89-6	231-096-4	5	-	-	-	fume	-	-
Manganese	7439-96-5	231-105-1	0,5	-	-	-	Inhalable fraction	-	-
Magnesium oxide	1309-48-4	215-171-9	4	-	-	-	dust, fume	-	-
Magnesium oxide	1309-48-4	215-171-9	10	-	-	-	Inhalable fraction	-	-
Aluminum	7429-90-5	231-072-3	10	-	-	-	Inhalable fraction	-	-
Aluminum	7429-90-5	231-072-3	4	-	-	-	Respirable fraction	-	-
Titanium	7440-32-6	231-142-3	-	-	-	-	-	-	-
Magnesium	7439-95-4	231-104-6	-	-	-	-	-	-	-
Iron oxide	1309-37-1	215-168-2	5	-	-	-	fume	-	-
Potassium fluorosilicate	16871-90-2	240-896-2	2,5	-	-	-	fume	-	-
Quartz	14808-60-7	238-878-4	0,1	-	-	-	Respirable fraction	-	-
Zirconium	7440-67-7	231-176-9	-	-	-	-	-	-	-
Lithium carbonate	554-13-2	209-062-5	-	-	-	-	-	-	-
Barium carbonate	513-77-9	208-167-3	0,5	-	-	-	-	-	-
Lithium oxide	12057-24-8	235-019-5	-	-	-	-	-	-	-

8.2. Exposure controls

Not applicable

Other

Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust.

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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

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 treshold

Not applicable

Oxidising properties

Not applicable

Partition coefficient: n-octanol / water

Not applicable

pH value

Not applicable

Relative density

Not applicable

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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

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. Reasonably expected fume constituents of this product would include fluorides and oxides of metals such as iron, manganese, barium, magnesium, potassium, lithium, aluminum, silicon. Fume analysis in weight %: No available data.

Other

Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 8.

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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).
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
Harmful if inhaled	Not applicable

Other

Long term effect	Chronic toxicity: Overexposure to welding fumes may affect pulmonary function. 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, psychological disturbances and spastic gait. Inhalable quartz is a respiratory carcinogen however the process of welding converts crystalline quartz to the amorphous form which is not considered to be a carcinogen.
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SECTION 12: Ecological information

12.1. Toxicity

Not applicable

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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.

USA RCRA: This product is not considered hazardous waste if discarded.

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

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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 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 these products are on the Domestic Substance List (DSL).

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.

Barium: 1.0% de minimis concentration

Manganese: 1.0% 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.

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SECTION 16: Other information

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

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Corr. 1B - Skin corrosion, hazard category 1B
STOT RE 1 - Specific Target Organ Toxicity — Repeated exposure, hazard category 1
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H372 - Causes damage to organs through prolonged or repeated exposure.

Other

Additional information

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 product. 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, expressed or implied is given. Contact ESAB for more information.