SAFETY DATA SHEET

Coreshield 8

SECTION 1: Identification

1.1. Product identifier

Trade name

Coreshield 8

▼Product no.

14C816710V, 242206365, 242206357, 242206134, 242206142, 242206167, 242206266, 242206266-USA, 242206357-USA, 242206365-USA, 242206373, 242206373-USA, 242206399, 242206415, 242206415-USA, 242206416

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

▼Relevant identified uses of the substance or mixture

Arc Welding
Restricted to professional and industrial use.

Uses advised against

None known.

1.3. Details of the supplier of the safety data sheet

Company and address

ESAB Welding & Cutting Products
801 Wilson Ave.
PA 17331 Hanover
USA
1-717-637-8911
https://esab.com/us/nam_en/

Contact person

Product Stewardship Team

E-mail

Productstewardship@esab.com

SDS date

2/2/2026

SDS Version

3.0

Date of previous version

4/29/2025 (3.0)

1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® (triage.webpoisoncontrol.org) to get specific guidance for your case
See also section 4 “First aid measures”.

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Not classified according to HCS (29 CFR 1910.1200)

2.2. Label elements

Hazard pictogram(s)

Not applicable.

Signal word

Not applicable.

Hazard statement(s)

Precautionary statement(s)

▼General

Not applicable.

▼Prevention

Not applicable.

▼Response

Not applicable.

▼Storage

Not applicable.

▼Disposal

Not applicable.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. ▼Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
aluminium	CAS No.:	1-5%		
magnesium powder (pyrophoric)	CAS No.: 7439-95-4	1-5%	Pyr. Sol. 1, H250 Water-react. 1, H260	
Lithium carbonate	CAS No.: 554-13-2	1-5%		
Potassium Silicofluoride	CAS No.: 16871-90-2	0.1-1%	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331	
Barium carbonate	CAS No.: 513-77-9	0.1-1%		
Titanium	CAS No.: 7440-32-6	0.1-1%		
Zirconium	CAS No.: 7440-67-7	0.1-1%	Pyr. Sol. 1, H250 Water-react. 1, H260	
Quartz*	CAS No.: 14808-60-7	0.1-1%	STOT RE 1, H372	

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: First-aid measures

4.1. ▼Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).
Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

▼Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

▼Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

▼Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

▼Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.
In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns

Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

None known.

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

Treat symptomatically.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Halogenated compounds
Carbon oxides (CO / CO2)
Some metal oxides

5.3. Advice for firefighters

No specific requirements.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation, especially in confined areas.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.
Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up

Limit spillage, sweep up and shovel into appropriate containers for disposal. Store in suitable, closed containers for disposal.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

No special conditions required.

Recommended storage material

Always store in containers of the same material as the original container.

▼Storage conditions

No specific requirements.

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iron oxide
Long term exposure limit (OSHA Table Z-1) (mg/m³): 10
Long term exposure limit (ACGIH TLV) (mg/m³): 5 (resp.)
Long term exposure limit (NIOSH REL) (mg/m³): 5 (dust and fume)

aluminium
Long term exposure limit (OSHA Table Z-1) (mg/m³): 15 Total dust / 5 Respirable fraction
Long term exposure limit (ACGIH TLV) (mg/m³): 1 Respirable fraction
Long term exposure limit (NIOSH REL) (mg/m³): 10 (Total dust), 5 (Respirable fraction)

Magnesium oxide
Long term exposure limit (ACGIH TLV) (mg/m³): 10 (Inhalable)
Long term exposure limit (NIOSH REL) (mg/m³): 10

Zirconium
Short term exposure limit (STEL) (ACGIH TLV) (mg/m³): 10
Short term exposure limit (STEL) (NIOSH REL) (mg/m³): 10
Long term exposure limit (OSHA Table Z-1) (mg/m³): 5
Long term exposure limit (ACGIH TLV) (mg/m³): 5
Long term exposure limit (NIOSH REL) (mg/m³): 5

Manganese
Short term exposure limit (STEL) (NIOSH REL) (mg/m³): 3
Long term exposure limit (OSHA Table Z-1) (mg/m³): (Ceiling limit) 5
Long term exposure limit (ACGIH TLV) (mg/m³): 0.02 (resp.) / 0.1 (Inhalable) / (for elemental and inorganic compounds)
Long term exposure limit (NIOSH REL) (mg/m³): 1

Quartz*
Long term exposure limit (ACGIH TLV) (mg/m³): 0.025 (resp.) for α-quartz and cristobalite
Long term exposure limit (NIOSH REL) (mg/m³): Potential occupational carcinogen; 0.05

Part 1910 - Occupational Safety and Health Standards (29 CFR 1910.1000 TABLE Z-1 - Limits for Air Contaminants)

8.2. ▼Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.
Airborne gas and dust concentrations must be kept at a minimum and below current limit values (see above).
Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure emergency eyewash and showers are clearly marked.

▼Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

No specific requirements.

Individual protection measures, such as personal protective equipment

Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.

Respiratory Equipment

Keep your head out of fumes. Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area. An approved respirator should be used unless exposure assessments are below applicable exposure limits.

Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.	-	-	

Hand protection

Wear Protective Gloves

Eye protection

Wear helmet or use face shield with filter lens for open arc welding processes. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others from the weld arc flash

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Color

Various colours

Odor

No data available.

Odor threshold (ppm)

No data available.

pH
No data available.

Density (g/cm³)
No data available.

Kinematic viscosity
Does not apply to solids.

Particle characteristics
No data available.

Phase changes

Melting point/freezing point (°F)
>1800

Melting point/freezing point (°C)
>1000

Softening point/range (°F)
Does not apply to solids.

Boiling point (°F)
Does not apply to solids.

Vapor pressure
No data available.

Relative vapor density
Does not apply to solids.

Decomposition temperature (°F)
No data available.

Data on fire and explosion hazards

Flash point (°F)
Does not apply to solids.

Flammability (°F)
No data available.

Auto-ignition temperature (°F)
No data available.

Explosion limits (% v/v)
Does not apply to solids.

Solubility

Solubility in water
No data available.

n-octanol/water coefficient (LogKow)
No data available.

Solubility in fat (g/L)
No data available.

9.2. Other information

Other physical and chemical parameters

No data available.

Oxidizing properties

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Non Reactive unless gets in contact with chemical substances like acids or strong bases could cause generation of gas.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

▼Acute toxicity

Based on available data for the mixture, the classification criteria are not met.

▼Skin corrosion/irritation

Based on available data for the mixture, the classification criteria are not met.

▼Serious eye damage/irritation

Based on available data for the mixture, the classification criteria are not met.

▼Respiratory sensitisation

Based on available data for the mixture, the classification criteria are not met.

▼Skin sensitisation

Based on available data for the mixture, the classification criteria are not met.

▼Germ cell mutagenicity

Based on available data for the mixture, the classification criteria are not met.

▼Carcinogenicity

Based on available data for the mixture, the classification criteria are not met.

▼Reproductive toxicity

Based on available data for the mixture, the classification criteria are not met.

▼STOT-single exposure
Based on available data for the mixture, the classification criteria are not met.

▼STOT-repeated exposure
Based on available data for the mixture, the classification criteria are not met.

▼Aspiration hazard
Based on available data for the mixture, the classification criteria are not met.

Long term effects
None known.

Other information
Iron oxide has been classified by IARC as a group 3 carcinogen.
Quartz* has been classified by IARC as a group 1 carcinogen.

SECTION 12: Ecological information

12.1. ▼Toxicity
Based on available data for the mixture, the classification criteria are not met.

12.2. ▼Persistence and degradability
Based on available data for the mixture, the classification criteria are not met.

12.3. ▼Bioaccumulative potential
Based on available data for the mixture, the classification criteria are not met.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects
None known.

SECTION 13: Disposal considerations

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)
None of the components are listed

Specific labelling

Contaminated packing
Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
DOT	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group
** Environmental hazards

Additional information

Not dangerous goods according to DOT, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to IMO instruments

No data available.

SECTION 15: Regulatory information

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

15.2. U.S. Federal regulations

TSCA (the non-confidential portion)

Iron oxide is listed
aluminium is listed
magnesium powder (pyrophoric) is listed
Lithium carbonate is listed
Potassium Silicofluoride is listed
Magnesium oxide is listed
Barium carbonate is listed
Titanium is listed
Zirconium is listed
Manganese is listed
Quartz* is listed

Clean Air Act

Manganese is regulated as a hazardous air pollutant (HAPS)

EPCRA Section 302

None of the components are listed

EPCRA Section 304

None of the components are listed

EPCRA section 313

aluminium is listed
Lithium carbonate is listed
Manganese is listed

CERCLA

None of the components are listed

Hazardous chemical inventory reporting

This product is not subject to Tier II reporting.

State regulations

California / Prop. 65

Lithium carbonate is known to cause: Developmental Toxicity

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Massachusetts / Right To Know Act

Iron oxide is listed
aluminium is listed
magnesium powder (pyrophoric) is listed
Lithium carbonate is listed
Magnesium oxide is listed
Zirconium is listed
Manganese is listed
Quartz* is listed

New Jersey / Right To Know Act

Iron oxide / Substance number: 1036

—

aluminium / Substance number: 0054
aluminium is on the Special Health Hazard Substance List

—

magnesium powder (pyrophoric) / Substance number: 1136

—

Lithium carbonate / Substance number: 1124
Lithium carbonate is on the Special Health Hazard Substance List

—

Potassium Silicofluoride / Substance number: 1582

—

Magnesium oxide / Substance number: 1144

—

Titanium / Substance number: 1860
Titanium is on the Special Health Hazard Substance List

—

Zirconium / Substance number: 2047
Zirconium is on the Special Health Hazard Substance List

—

Manganese / Substance number: 1155
Manganese is on the Special Health Hazard Substance List

—

Quartz* / Substance number: 1660
Quartz* is on the Special Health Hazard Substance List

—

New York / Right To Know Act

Iron oxide is listed
Iron oxide is regulated with a Treshold Reporting Quantity (TRQ) of: 100 pounds

—

aluminium is listed
aluminium is regulated with a Treshold Reporting Quantity (TRQ) of: 1 pounds

—

magnesium powder (pyrophoric) is listed
magnesium powder (pyrophoric) is regulated with a Treshold Reporting Quantity (TRQ) of: 10 pounds

—
Lithium carbonate is listed
Lithium carbonate is regulated with a Treshold Reporting Quantity (TRQ) of: 0 pounds

—
Potassium Silicofluoride is listed
Potassium Silicofluoride is regulated with a Treshold Reporting Quantity (TRQ) of: 100 pounds

—
Magnesium oxide is listed
Magnesium oxide is regulated with a Treshold Reporting Quantity (TRQ) of: 100 pounds

—
Titanium is listed
Titanium is regulated with a Treshold Reporting Quantity (TRQ) of: 10 pounds

—
Zirconium is listed
Zirconium is regulated with a Treshold Reporting Quantity (TRQ) of: 10 pounds

—
Manganese is listed
Manganese is regulated with a Treshold Reporting Quantity (TRQ) of: 10 pounds

—

Pennsylvania / Right To Know Act

Iron oxide is listed

—
aluminium is listed
aluminium is hazardous to the environment (E)

—
magnesium powder (pyrophoric) is listed

—
Magnesium oxide is listed

—
Zirconium is listed

—
Manganese is listed
Manganese is hazardous to the environment (E)

—
Quartz* is listed

—

15.4. ▼Restrictions for application

Industrial use only.

15.5. Demands for specific education

No specific requirements.

15.6. Additional information

Not applicable.

15.7. Chemical safety assessment

No

15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H250, Catches fire spontaneously if exposed to air.
H260, In contact with water releases flammable gases which may ignite spontaneously.
H301, Toxic if swallowed.
H311, Toxic in contact with skin.
H331, Toxic if inhaled.
H372, Causes damage to organs through prolonged or repeated exposure.

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CERCLA = Comprehensive Environmental Response Compensation and Liability Act
DOT = Department of Transportation
EINECS = European Inventory of Existing Commercial chemical Substances
EPCRA = Emergency Planning and Community Right-To-Know Act
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HCIS = Hazardous Chemical Information System
HNOC = Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OECD = Organisation for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
PBT = Persistent, Bioaccumulative and Toxic
RCRA = Resource Conservation and Recovery Act
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SARA = Superfund Amendments and Reauthorization Act
SCL = A specific concentration limit.
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TSCA = The Toxic Substances Control Act
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

Not applicable.

The safety data sheet is validated by

Product Stewardship Team

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.
Country-language: US-en