



Material Safety Data Sheets

CSF-71T

Document No.: CSW-0134

Rev. date : 2018.08.01

Rev. No. : 4

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier : For mild steel and 490MPa class high tensile strength steel

Brand name : CSF-71T (AWS A5.36 E71T1-C1[M21]A0-CS1-H8, A5.20 E71T-1C/1M)

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

1.2.1. Relevant identified uses : Welding

1.2.2. Uses advised : Reference the [7. Handling and storage]

1.3 Company Identification :

1.3.1 Manufacturer : Chosun Welding Co.Ltd (www.chosunwelding.com)

1.3.2 Address : #321 Hwasan-Ri, Onsan-Eub, Ulju-Kun, Ulsan, Korea

1.3.3 Emergency Tel : +82-080-285-9080, +82-52-237-5301~6 Fax:+82-52-237-2305

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture:

The product is placed on the market in solid form.

2.1.1 Classification in accordance with Directive 1999/45/EC : Mixture is classified as **Xn;R48/20, 21, 22**

2.1.2 Classification in accordance with Regulation (EC) No 1272/2008: Mixture is classified **STOT RE 2 H373**

2.2 Label elements:

Labeling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



GHS08

Signal word: Warning

Hazard statements:

H373 May cause damage to respiratory system through prolonged or repeated exposure

Precautionary statements:

P260 Do not breathe fume.

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents and container in accordance with local and national regulations.

The mixture does not require a label according to Annex I.

Annex I, section 1.3 Derogations from labelling requirements for special cases:

In accordance with Article 23 the following derogation shall apply:

Metals in massive form, alloys, mixtures containing polymers and mixtures containing elastomers do not require a label according to this Annex, if they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with the criteria of this Annex.


※ **On the other hand, we want to offer classification and label of welding fume for workers.**

2.3 Other hazards: No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: Not relevant.

3.2 Mixtures: The mixture contains these substances:

Substance name	EC No. /CAS No.	Classification				Contents (wt %)
		67/548/EEC	Hazard Class and Category Code(s)	Hazard statement	Pictogram/ Signal word	
1.2Iron	7439-89-6 /231-096-4	Xn;R68/20/21/22 Xn;R68/20/21/22	STOT SE 2 STOT RE 2	H371 H373	 Warning	85~90



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^{1,2} Manganese	7439-96-5 /231-105-1	Xn;R68/20/21/22	STOT RE 2	H373	Warning	1.0~3.0
^{1,2} Titaniumdioxide	13463-67-7 /236-675-5	Xi; R36 Xi; R37 T; R48/23	Eye Irrit. 2STOT SE 3STOT RE 1	H319 H335 H372	Danger	5~10
¹ Silicon	7440-21-3 /231-130-8	-	-	-	-	0.2~1.5

¹Substance is classified in terms of Regulation (EC) No. 1272/2008 Annex VI.

²Substance with workplace exposure limits.

Note T: This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.

* Classification according to Regulation (EC) No. 1272/2008 only applies to powder form.

**See all the hazard statements in chapter 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

In case of respiratory exposure: Remove to fresh air and keep at rest. If breathing is difficult or has stopped, administer artificial respiration as necessary. Seek medical attention.

In case of skin contamination: Wash contaminated area thoroughly with soap and water. Remove and wash contaminated clothing. If a persistent rash or irritation occurs, seek medical attention.

In case of intrusion into eye: Immediately flush eyes with large amounts of running water for at least 15 minutes, lifting the upper and lower eyelids. Get medical attention.

In case of oral intake: Ingestion is considered unlikely due to product form. However, if swallowed do not induce vomiting. Seek medical attention. Advice to doctor: treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed: No data available.

4.3 Indication of any immediate medical attention and special treatment needed: No data available.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Carbon dioxide, dry chemical, water spray. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture: Fire may produce irritating or poisonous gases.

5.3 Advice for firefighters: In the event of a fire, wear self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear appropriate personal protective equipment as specified in Section 8. Ensure adequate ventilation.

For emergency responders: No data available.

6.2 Environmental precautions: Avoid dispersal of spilled material and contact with soil, ground and surface water, drains and sewers.

6.3 Methods and material for containment and cleaning up: Take up mechanically.

Collect the material in labeled containers and dispose of according to local and regional authority



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6.4 Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. Use adequate ventilation. Keep away from sources of ignition. Avoid contact with skin, eyes and clothing. Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, dry and well-ventilated place. Keep away from incompatible materials. Keep away from heat and open flame.

7.3 Specific end use(s): No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: Community workplace exposure limits were not established for substances contained in the mixture.

Ingredients	CAS No.	EC No.	Occupation safety and health acts (mg/m ³)	OSHA-PEL (mg/m ³)	ACGIH-TLV (mg/m ³)
Titanium dioxide	13463-67-7	236-675-5	10.0	15.0	10.0
Manganese(as Mn)	7439-96-5	231-105-1	5.0	5.0	0.2
Iron	7439-89-6	231-096-4	5.0	15.0	10.0
Silicon(as Si)	7440-21-3	231-130-8	10.0	15.0	10.0

※ ACGIH : American Conference of Governmental Industrial Hygienist

※ TLV : Threshold Limit Value

※ OSHA : Occupational Safety and Health Administration

※ PEL : Permissible Exposure Limit

8.2. Exposure controls: Do not eat, drink and smoke. Immediately remove all contaminated clothing. Wash hands before breaks and at the end of work.

8.2.1 Appropriate engineering controls: Use local exhaust ventilation during all welding operations.

8.2.2 In Individual protection measures, such as personal protective equipment:

8.2.2.1 Eye/face protection: Always wear eye protection during welding operations, helmet and/or face shield with filter lens.

8.2.2.2 Skin protection:

Hand protection: Wear appropriate protective (welding) gloves during welding.

Other: Wear appropriate protective clothing and boots.

8.2.2.3 Respiratory protection: If ventilation is insufficient, use appropriate respirator or self-contained breathing apparatus.

8.2.2.4 Thermal hazards: No data available.

8.2.3 Environmental exposure controls: Do not allow to enter sewers, surface and ground water.

9. PHYSICAL AND CHEMICAL CHARACTER

9.1 Information on basic physical and chemical properties:

Appearance	solid (metal rod)
Odour	-
Odour threshold	-
pH	-
Melting point/freezing point	-
Initial boiling point and boiling range	-
Flash point	-
Evaporation rate	-
Flammability (solid, gas)	-
Upper/lower flammability or explosive limits	-
Vapour pressure	-
Vapour density	-
Relative density	-



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Solubility(ies)	-
Partition coefficient: n-octanol/water	-
Auto-ignition temperature	-
Decomposition temperature	-
Viscosity	-
Explosive properties	-
Oxidising properties	-

9.2 Other information: No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available.

10.2 Chemical stability: The product is stable under normal conditions. When using it may produce dangerous fumes and gases.

10.3 Possibility of hazardous reactions: No data available.

10.4 Conditions to avoid: Avoid contact with incompatible materials.

10.5 Incompatible materials: Acids, bases, oxidizing agents.

10.6 Hazardous decomposition products: Metal oxide fumes and gases are produced during welding.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Substances: No data available.

Mixtures:

Acute toxicity: No data available.

Skin corrosion/irritation: No data available.

Serious eye damage/irritation: No data available.

Respiratory or skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

STOT-single exposure: No data available.

STOT-repeated exposure: No data available.

Aspiration hazard: No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No data available.

12.2 Persistence and degradability: No data available.

12.3 Bioaccumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Dispose off in accordance with local and national regulations.

14. TRANSPORT INFORMATION

14.1 ADR/RID/ADN: The mixture is not subject to international regulations on transport of dangerous goods.

14.1.1 UN number: No data available.

14.1.2 UN proper shipping name: No data available.

14.1.3 Transport hazard class(es): No data available.

14.1.4 Packing group: No data available.

14.1.5 Environmental hazards: No data available.

14.1.6 Special precautions for user: No data available.

14.1.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: No data available.



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14.2 IMDG: The mixture is not subject to international regulations on transport of dangerous goods.

14.3 ICAO/IATA: The mixture is not subject to international regulations on transport of dangerous goods.

15. REGULATORY INFORMATION

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

Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization 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 (OJ L 396, 30.12.2006);

Corrigendum to Directive No 2006/121/EC of the European Parliament and of the Council of 18 December 2006 amending Council Directive 67/548/EEC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances in order to adapt it to Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency (OJ L 396, 30.12.2006);

Regulation (EC) No 1272/2008 of the European parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12. 2008).

COMMISSION REGULATION (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labeling and packaging of substances and mixtures.

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2 Chemical safety assessment: Chemical safety assessment is not available.

16. OTHER INFORMATION

16.1 List of relevant risk phrases and hazard statements:

R15 Contact with water liberates extremely flammable gases.

R17 Spontaneously flammable in air.

H261 In contact with water releases flammable gases

H250 Catches fire spontaneously if exposed to air

16.2 Instructions for the training: Product handling instruction shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to specific conditions at the workplace.

16.3 Recommended restrictions on use (i.e. non-statutory recommendations by supplier): Mixture should not be used for any other purpose than for which is appointed (point 1.2). Because of the fact that specific conditions of use of mixture are out of supplier's control, it is responsibility of the user to adjust the prescribed warnings to local laws and regulations. Safety information describes the product in terms of safety and it cannot be considered as technical information about product.

16.4 Sources of key data used to compile the Safety Data Sheet: SDS was prepared using data from the producer.

16.4 Purpose of SDS: Purpose of this SDS is to provide relevant information for users of product to ensure proper handling and control of risks/hazards.