Safety Data Sheet

NSWE SF-3A

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 17/12/2020 Revision date: 16/09/2021 Supersedes version of: 17/12/2020 Version: 2.0

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

1.1. Product identifier

Product form : Article
Product name : NSWE SF-3A

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Welding wire

Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Norsk Sveiseteknikk AS
Postboks 109, 3301 Hokksund
T + 47 99 27 80 00 - F + 47 32 82 90 19
Thomas@nst.no - nst.no

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Newcastle Unit)	Claremont Place Newcastle-upon-Tyne, Newcastle	+44 191 2606182 +44 191 2606180	Hours of operation: 24hrs

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Alloy. According to EC directives or the corresponding national regulations there is no labelling obligation for this product.
No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification : In the smoke emitted during use, there will be an additional risks if inhaled. Intensive exposure to welding fumes may cause lung disease, bronchitis, or worsen already existing inhalation problems. Intensified exposure to manganese (Mn) can damage the central nervous system or worsen existing health problems.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Iron	(CAS-No.) 7439-89-6 (EC-No.) 231-096-4	< 100	Not classified

titanium dioxide	(CAS-No.) 13463-67-7 (EC-No.) 236-675-5 (REACH-no) 01-2119489379-17	< 10	Not classified
Manganese	(CAS-No.) 7439-96-5 (EC-No.) 231-105-1 (REACH-no) 01-2119449803-34	< 5	Not classified
silicon	(CAS-No.) 7440-21-3 (EC-No.) 231-130-8 (REACH-no) 01-2119480401-47	< 1	Not classified
silicondioxide, amorphous	(CAS-No.) 14808-60-7 (EC-No.) 238-878-4 (REACH-no) N/A	< 1	Not classified
Zirconium compounds (as Zr)	(CAS-No.) 1314-23-4 (EC-No.) 215-227-2 (REACH-no) 01-2119486976-14	< 1	Not classified
aluminium(III)oxide	(CAS-No.) 1344-28-1 (EC-No.) 215-691-6 (REACH-no) N/A	< 1	Not classified
Nickel (Note S)(Note 7)	(CAS-No.) 7440-02-0 (EC-No.) 231-111-4 (EC Index-No.) 028-002-00-7	< 1	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372
magnesium (Note T)	(CAS-No.) 7439-95-4 (EC-No.) 231-104-6 (EC Index-No.) 012-002-00-9 (REACH-no) 01-2119537203-49	< 1	Pyr. Sol. 1, H250 Water-react. 1, H260
alkali fluorosilicates(K) (Note A)	(CAS-No.) 16871-90-2 (EC-No.) 240-896-2 (EC Index-No.) 009-012-00-0	< 1	Acute Tox. 3 (Inhalation), H331 (ATE=0.5 mg/l/4h) Acute Tox. 3 (Dermal), H311 (ATE=300 mg/kg bodyweight) Acute Tox. 3 (Oral), H301 (ATE=100 mg/kg bodyweight)
Copper	(CAS-No.) 7440-50-8 (EC-No.) 231-159-6 (REACH-no) 01-2119480154-42	< 1	Aquatic Chronic 2, H411

Note 7 : Alloys containing nickel are classified for skin sensitisation when the release rate of 0,5 µg Ni/cm2/week, as measured by the European Standard reference test method EN 1811, is exceeded.
Note A : Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '... compounds' or '... salts'. In this case, the supplier is required to state on the label the correct name, due account being taken of section 1.1.1.4.
Note S : This substance may not require a label according to Article 17 (see section 1.3 of Annex I) (Table 3.1).
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.
Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : General first aid, rest, warmth and fresh air. Move to fresh air. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Move to fresh air. Call a POISON CENTER/doctor if you feel unwell. Artificial respiration if indicated.

First-aid measures after skin contact : Wash skin with soap and water. Get medical attention if irritation persists after washing. If burned, cool skin with ice or cold water.

First-aid measures after eye contact : Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.

First-aid measures after ingestion : Rinse nose, mouth and throat with water.

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

Symptoms/effects after inhalation : Overexposure to welding fumes may affect pulmonary function. Strong exposure to manganese may affect the nervous system.

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

Electric shock: Disconnect and turn off the power. If the victim is conscious or has partial loss of consciousness, open the airways. If the breathing has stopped, give artificial respiration. If cardiac arrest, provide heart massage and artificial respiration.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam, carbon dioxide or dry powder.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non flammable.

Hazardous decomposition products in case of fire : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide. Oxides of: Iron. Manganese. aluminium. Titanium. copper. Zirconium (Zr). Silicon. Nickel (Ni).

5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper personal protective equipment, including respiratory protection (EN137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes. Do not breathe vapour.

6.1.1. For non-emergency personnel

Protective equipment : Wear appropriate personal protective equipment - see Section 8.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not discharge into drains.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Limit spread of spilled material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Mechanical ventilation or local exhaust ventilation is required. Avoid breathing vapours, fume. Avoid contact with skin and eyes. Do not touch electrical parts, such as welding wire and welding machine terminals.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place.

7.3. Specific end use(s)

No additional data.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Manganese (7439-96-5)	
United Kingdom - Occupational Exposure Limits	
Local name	Manganese and its inorganic compounds
WEL TWA (OEL TWA) [1]	0.2 mg/m³ Inhalable fraction (as Mn) 0.05 mg/m³ Respirable fraction (as Mn)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

silicon (7440-21-3)	
United Kingdom - Occupational Exposure Limits	
Local name	Silicon
WEL TWA (OEL TWA) [1]	10 mg/m³ inhalable dust 4 mg/m³ respirable dust
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Zirconium compounds (as Zr) (1314-23-4)	
United Kingdom - Occupational Exposure Limits	
Local name	Zirconium
WEL TWA (OEL TWA) [1]	5 mg/m³ compounds (as Zr)
WEL STEL (OEL STEL)	10 mg/m³ compounds (as Zr)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

aluminium(III)oxide (1344-28-1)	
United Kingdom - Occupational Exposure Limits	
Local name	Aluminium oxides
WEL TWA (OEL TWA) [1]	10 mg/m³ inhalable dust 4 mg/m³ respirable dust
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

magnesium (7439-95-4)	
United Kingdom - Occupational Exposure Limits	
Local name	Magnesium oxide
WEL TWA (OEL TWA) [1]	4 mg/m³ (as Mg) fume and respirable dust 10 mg/m³ (as Mg) inhalable dust fume
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

titanium dioxide (13463-67-7)	
United Kingdom - Occupational Exposure Limits	
Local name	Titanium dioxide
WEL TWA (OEL TWA) [1]	4 mg/m³ respirable 10 mg/m³ total inhalable
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Nickel (7440-02-0)	
United Kingdom - Occupational Exposure Limits	
Local name	Nickel
WEL TWA (OEL TWA) [1]	0.1 mg/m³ and its inorganic compounds (except nickel tetracarbonyl): water-soluble nickel compounds (as Ni) 0.5 mg/m³ and its inorganic compounds (except nickel tetracarbonyl): nickel and water insoluble nickel compounds (as Ni)
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity), Carc (Capable of causing cancer and/or heritable genetic damage (nickel oxides and sulphides)), Sen (Capable of causing occupational asthma (nickel sulphate))
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Copper (7440-50-8)	
United Kingdom - Occupational Exposure Limits	
Local name	Copper
WEL TWA (OEL TWA) [1]	0.2 mg/m³ fume (as Cu) 1 mg/m³ and compounds, dusts and mists (as Cu)
WEL STEL (OEL STEL)	2 mg/m³ and compounds, dusts and mists (as Cu)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

Exposure limit values for the other components

ironoxide (1309-37-1)		
United Kingdom - Occupational Exposure Limits		
Local name	Iron oxide	
WEL TWA (OEL TWA) [1]	5 mg/m³ fume (as Fe)	
WEL STEL (OEL STEL)	10 mg/m³ fume (as Fe)	
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE	

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station. Provide eyewash station. Working operations which cause formation of high volumes of vapour should take place in ventilation hood or with local exhaust ventilation. It is forbidden to weld in rooms where there are halogenated solvents in the working atmosphere.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:
Use approved safety goggles or face shield. Wear safety glasses with high protection against UV radiation. STANDARD EN 166:2001

8.2.2.2. Skin protection

Skin and body protection:
Heatproof clothing. Heat-resistant glopves.

Hand protection:

Gloves made of insulating material. Heat-resistant glopves. EN 388:2016. Chemical resistant gloves required for prolonged or repeated contact. STANDARD EN ISO 374-1:2016/A1:2018, EN ISO 374-2:2019, EN ISO 374-4:2019

Other skin protection

Materials for protective clothing:

Heatproof clothing

8.2.2.3. Respiratory protection

Respiratory protection:

During welding supplied-air respirator or motor assisted respirators with P2 or P3-filter should be used in combination with brown, yellow and gray gas filter. Respiratory protection should be used in conjunction with welding hood. Standard EN 143:2021. STANDARD EN 149:2001 + A1:2009. EN 405. EN 139

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	Metal. copper.
Appearance	:	Wire.
Odour	:	Odourless.
Odour threshold	:	Not relevant.
Melting point	:	Not determined.
Freezing point	:	Not determined.
Boiling point	:	Not relevant.
Flammability	:	Not applicable
Explosive properties	:	Not explosive.
Oxidising properties	:	Non flammable.
Explosive limits	:	Not relevant.
Lower explosive limit (LEL)	:	Not applicable
Upper explosive limit (UEL)	:	Not applicable
Flash point	:	Not relevant.
Auto-ignition temperature	:	Not determined.
Decomposition temperature	:	Not determined.
pH	:	Not relevant.
pH solution	:	Not available
Viscosity, kinematic	:	Not relevant.
Viscosity, dynamic	:	Not relevant.
Solubility	:	Not soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	Not determined.
Vapour pressure	:	Not relevant.
Vapour pressure at 50 °C	:	Not available
Density	:	Not available
Relative density	:	Not determined.
Relative vapour density at 20 °C	:	Not relevant.
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle aggregation state	:	Not available
Particle agglomeration state	:	Not available
Particle specific surface area	:	Not available
Particle dustiness	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Not relevant.
Additional information : None to our knowledge.

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Will not polymerise.

10.4. Conditions to avoid

Water, humidity.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

Carbon dioxide. Ozone. Oxides of: Iron. Manganese. Aluminium. Titanium. copper. Zirconium (Zr). Silicon (Si).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Manganese (7439-96-5)	
LD50 oral rat	9000 mg/kg

silicon (7440-21-3)	
LD50 oral rat	3160 mg/kg

Zirconium compounds (as Zr) (1314-23-4)	
LD50 oral rat	> 8800 mg/kg

aluminium(III)oxide (1344-28-1)	
LD50 oral rat	> 5000 mg/kg

titanium dioxide (13463-67-7)	
LD50 oral rat	> 10000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 6.82 mg/l/4h

Skin corrosion/irritation : Not classified
pH: Not relevant.
Additional information : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Not classified
pH: Not relevant.
Additional information : Based on available data, the classification criteria are not met
Respiratory or skin sensitisation : Not classified
Additional information : Based on available data, the classification criteria are not met
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified
Additional information : In the smoke emitted during use, there will be an additional risks if inhaled. Intensive exposure to welding fumes may cause lung disease, bronchitis, or worsen already existing inhalation problems. Intensified exposure to manganese (Mn) can damage the central nervous system or worsen existing health problems.
Inhalation of fumes or vapours may cause respiratory irritation

STOT-repeated exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

Nickel (7440-02-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
Additional information : Based on available data, the classification criteria are not met

NSWE SF-3A	
Viscosity, kinematic	Not relevant.

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Manganese (7439-96-5)	
LC50 - Fish [1]	2.91 mg/l (96 hours)
EC50 - Crustacea [1]	5.2 mg/l 48 hours
EC50 72h - Algae [1]	0.55 mg/l

silicondioxide, amorphous (14808-60-7)	
LC50 - Fish [1]	(96 hours - Brachydanio rerio, zebra-fish)
EC50 - Crustacea [1]	7600 mg/l (48 hours - Daphnia magna)
ErC50 algae	440 mg/l (EC50, 72 hours - Selenastrum capricornutum)

aluminium(III)oxide (1344-28-1)	
LC50 - Fish [1]	> 100 mg/l LC50 96h fish Salmo trutta
EC50 - Crustacea [1]	> 100 mg/l Daphnia magna, 48 hours

titanium dioxide (13463-67-7)	
LC50 - Fish [1]	> 1000 mg/l Fundulus heteroclitus
EC50 - Crustacea [1]	> 1000 mg/l (48 hours - Daphnia magna)

12.2. Persistence and degradability

NSWE SF-3A	
Persistence and degradability	The product is not biodegradable.

12.3. Bioaccumulative potential

NSWE SF-3A	
Partition coefficient n-octanol/water (Log Pow)	Not determined.
Bioaccumulative potential	No data available on bioaccumulation.

Manganese (7439-96-5)	
Bioconcentration factor (BCF REACH)	59052

silicondioxide, amorphous (14808-60-7)	
Partition coefficient n-octanol/water (Log Pow)	0.53

12.4. Mobility in soil

NSWE SF-3A	
Ecology - soil	The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

NSWE SF-3A
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Other adverse effects : None to our knowledge.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Product is not hazardous waste.
Waste treatment methods : Do not discharge into drains.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
European List of Waste (LoW) code : 12 01 13 - welding wastes

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID /

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not applicable	Not applicable	Not applicable	Not regulated	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not regulated	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not regulated	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not regulated	Not applicable

14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not regulated	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not regulated

Rail transport
Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substance on the REACH candidate list
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations : 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.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:			
Section	**Changed item**	**Change**	**Comments**
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Removed	
11.1	Additional information	Modified	

Data sources : 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.

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Carc. 2	Carcinogenicity, Category 2
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.

H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
Pyr. Sol. 1	Pyrophoric Solids, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1

The information in this safety data sheet is based on information from the manufacturer/supplier, present european and national legislation, and presupposes that the product is used within the specified area of application.