

# Safety Data Sheet

## NST MMA Electrodes for welding of carbon steels

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

Product name : NST MMA Electrodes for welding of carbon steels  
 Synonyms : NST E 7016, NST 7016S, NST E 7018, NST E 6013, NST E 7024

#### 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 171, 3371 Vikersund  
 T + 47 99 27 80 00 - F + 47 32 82 90 19  
[nst.no](http://nst.no)

Contact person : Eyvind Røed (E.post: Eyvind@nst.no)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
United Kingdom	National Poisons Information Service (Newcastle Unit)	Claremont Place Newcastle-upon-Tyne, Newcastle	+44 191 2606182/+44 191 2606180 24H

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

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

Not classified

#### 2.2. Label elements

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

Precautionary statements (CLP) : P260 - Do not breathe fume, dust  
 P280 - Wear protective gloves, face protection, protective clothing  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 P271 - Use only outdoors or in a well-ventilated area

#### 2.3. Other hazards

Other hazards not contributing to the classification : In the smoke emitted by use, there will be an additional risk 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. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Iron	(CAS No) 7439-89-6 (EC no) 231-096-4 (REACH-no) 01-2119462838-24	60 - 100	Not classified
titanium dioxide	(CAS No) 13463-67-7 (EC no) 236-675-5 (REACH-no) 01-2119489379-17	0.1 - 20	Not classified
Quartz (SiO <sub>2</sub> )	(CAS No) 14808-60-7 (EC no) 238-878-4 (REACH-no) N/A	0.1 - 20	Not classified
Calcium carbonate (natural)	(CAS No) 1317-65-3 (EC no) 215-279-6 (REACH-no) N/A	0.1 - 15	Not classified
Manganese	(CAS No) 7439-96-5 (EC no) 231-105-1 (REACH-no) 01-2119449803-34	0.1 - 5	Not classified
cellulose	(CAS No) 9004-34-6 (EC no) 232-674-9 (REACH-no) N/A	< 2	Not classified
silicon	(CAS No) 7440-21-3 (EC no) 231-130-8 (REACH-no) 01-2119480401-47	< 1	Not classified
magnesium carbonate	(CAS No) 546-93-0 (EC no) 208-915-9 (REACH-no) 01-2119523999-20	< 1	Not classified

Full text of H-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 or doctor/physician 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/injuries 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. Titanium. Silicon. Magnesium. Molybdenum (Mo). Ozone.

### 5.3. Advice for firefighters

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

## 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.

#### For non-emergency personnel

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

**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. Do not breathe dust, fume, vapours. Avoid contact with skin and eyes. Do not touch electrical parts, such as welding wire and welding machine terminals. Wear appropriate personal protective equipment - see Section 8.

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.

Incompatible materials : Acids.

Storage temperature : 17 - 25 °C

**7.3. Specific end use(s)**

No additional data.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

<b>Manganese (7439-96-5)</b>		
United Kingdom	Local name	Manganese and its inorganic compounds (as Mn)
United Kingdom	WEL TWA (mg/m³)	0.5 mg/m³
<b>titanium dioxide (13463-67-7)</b>		
United Kingdom	Local name	Titanium dioxide
United Kingdom	WEL TWA (mg/m³)	4 mg/m³ respirable 10 mg/m³ total inhalable
<b>silicon (7440-21-3)</b>		
United Kingdom	Local name	Silicon
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ inhalable dust 4 mg/m³ respirable dust
<b>magnesium carbonate (546-93-0)</b>		
United Kingdom	Local name	Magnesite
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ inhalable dust 4 mg/m³ respirable dust
<b>Calcium carbonate (natural) (1317-65-3)</b>		
United Kingdom	Local name	Calcium carbonate
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ inhalable dust 4 mg/m³ respirable 4 mg/m³ Limestone, respirable 10 mg/m³ Limestone, total inhalable 4 mg/m³ Marble, respirable 10 mg/m³ Marble, total inhalable
<b>cellulose (9004-34-6)</b>		
United Kingdom	Local name	Cellulose
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ inhalable dust 4 mg/m³ respirable
United Kingdom	WEL STEL (mg/m³)	20 mg/m³ inhalable dust

**Exposure limit values for the other components**

<b>ironoxide (1309-37-1)</b>		
United Kingdom	Local name	Iron oxide

ironoxide (1309-37-1)			
United Kingdom	WEL TWA (mg/m³)	5 mg/m³ fume (as Fe) 4 mg/m³ Rouge, respirable 10 mg/m³ Rouge, total inhalable	
United Kingdom	WEL STEL (mg/m³)	10 mg/m³ fume (as Fe)	

## 8.2. Exposure 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.
Personal protective equipment	: Gloves. Safety glasses.
Materials for protective clothing	: Heatproof clothing
Hand protection	: Gloves made of insulating material. Heat-resistant glopves. EN 388. Chemical resistant gloves required for prolonged or repeated contact. STANDARD EN 374
Eye protection	: Use approved safety goggles or face shield. Wear safety glasses with high protection against UV radiation. STANDARD EN 166
Skin and body protection	: Använd värmeisolerande handskar, skor och annan säkerhetsutrustning avsedda för svetsning
Respiratory protection	: Vid svetsning bör användas friskluftsmask eller motor assisterad andningsskydd med P2 eller P3-filter i kombination med brunt, gult och grått gassfilter. Andningsskydd bör användas i samband med svetsning huva. Standard EN 143. STANDARD EN 149. EN 405. EN 139



Other information	: Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.
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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Wire.
Colour	: According to product specification.
Odour	: Odourless or no characteristic odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 1100 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Not soluble in water. Soluble in: Strong acids.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

**9.2. Other information**

Additional information : None to our knowledge.

**SECTION 10: STABILITY AND REACTIVITY**

**10.1. Reactivity**

No incompatible groups noted.

**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**

The most ordinary chimney gases include: Carbon dioxide. Ozone. Oxides of: Iron. Manganese. Silicon (Si).

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified  
Based on available data, the classification criteria are not met

<b>Manganese (7439-96-5)</b>	
LD50 oral rat	9000 mg/kg
<b>titanium dioxide (13463-67-7)</b>	
LD50 oral rat	> 100000 mg/kg
<b>silicon (7440-21-3)</b>	
LD50 oral rat	3160 mg/kg
<b>ironoxide (1309-37-1)</b>	
LD50 oral rat	> 10000 mg/kg
<b>Iron (7439-89-6)</b>	
LD50 oral rat	30000 mg/kg
<b>Calcium carbonate (natural) (1317-65-3)</b>	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 3 mg/l/4h
<b>cellulose (9004-34-6)</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5.8 mg/l/4h

Skin corrosion/irritation : Not classified  
Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified  
Dust from this product may cause eye irritation  
Vapor may irritate eyes

Respiratory or skin sensitisation : Not classified  
Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified  
Based on available data, the classification criteria are not met

Carcinogenicity : Not classified  
Prolonged and repeated inhalation of welding fumes may cause an increased risk of developing lungrelated cancers

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

Specific target organ toxicity (single exposure)	: Not classified
	In the smoke emitted by use, there will be an additional risk 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
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
	Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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Manganese (7439-96-5)	
LC50 fish 1	2.91 mg/l (96 hours)
EC50 Daphnia 1	5.2 mg/l 48 hours
IC50 algae	0.55 mg/l (IC50, 72 hours)
titanium dioxide (13463-67-7)	
LC50 fish 1	> 1000 mg/l (96 hours - Fundulus heteroclitus)
EC50 Daphnia 1	> 1000 mg/l (48 hours - Daphnia magna)
ironoxide (1309-37-1)	
LC50 fish 1	> 1000 mg/kg 96 h Leuciscus idus (golden orfe)
LC50 other aquatic organisms 1	> 5000 mg/kg 24 h (Pseudomonas fluorescens)
Iron (7439-89-6)	
LC50 fish 1	13.6 mg/l 96h (FeCl2) Morone saxatilis
EC50 Daphnia 1	5.2 mg/l 48h
IC50 algae	0.1 mg/l 72h

### 12.2. Persistence and degradability

NST MMA Electrodes for welding of carbon steels	
Persistence and degradability	The product is not biodegradable.
Iron (7439-89-6)	
Persistence and degradability	There are no data on the degradability of this product.

### 12.3. Bioaccumulative potential

NST MMA Electrodes for welding of carbon steels	
Bioaccumulative potential	No data available on bioaccumulation.
Manganese (7439-96-5)	
Bioconcentration factor (BCF REACH)	59052
Iron (7439-89-6)	
Bioconcentration factor (BCF REACH)	140000

### 12.4. Mobility in soil

NST MMA Electrodes for welding of carbon steels	
Ecology - soil	The product is insoluble in water.
Iron (7439-89-6)	
Ecology - soil	The product is water soluble and may spread in water systems.

### 12.5. Results of PBT and vPvB assessment

NST MMA Electrodes for welding of carbon steels	
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	
Component	
Iron (7439-89-6)	This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Other adverse effects

Other adverse effects	: None to our knowledge.
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**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

- Regional legislation (waste) : Product is not hazardous waste.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to an authorised waste collection point.
- European List of Waste (LoW) code : 12 01 13 - welding wastes

**SECTION 14: TRANSPORT INFORMATION**

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

<b>14.1. UN number</b>	Not regulated for transport
<b>14.2. UN proper shipping name</b>	
<b>14.3. Transport hazard class(es)</b>	
<b>14.4. Packing group</b>	
<b>14.5. Environmental hazards</b>	
No supplementary information available	

**14.6. Special precautions for user**

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**SECTION 15: REGULATORY INFORMATION**

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

**EU-Regulations**

- Contains no REACH substances with Annex XVII restrictions
- Contains no substance on the REACH candidate list
- Contains no REACH Annex XIV substances

**National regulations**

EC-regulation 2015/830 /EC, 1907/2006/EC (REACH), 1272/2008/EC (CLP), 790/2009/EC. Transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO). Workplace exposure limits

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: OTHER INFORMATION**

- Data sources : EC-regulation 2015/830 /EC, 1907/2006/EC (REACH), 1272/2008/EC (CLP), 790/2009/EC. Transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO). Workplace exposure limits.
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- Version : 4.0
- Signature : A. Åsebø Murel

*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.*